

AMERICAN ARTISAN and Hardware Record

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A line you can stick to—a permanent, sound business connection.

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The scientific SUPER-SMOKELESS feature is an exclusive UTICA HEATER COMPANY improvement and is embodied in the well known NEW IDEA Pipeless and SUPERIOR Pipe Furnaces in sizes for all requirements.

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tical position and ample area makes the Front-Rank radiator self-cleaning, the soot dropping into the dust box—a one-piece casting—from which it is easily removed. So having in mind this long fire travel, this large radiating area, this self-cleaning property, it is readily seen how surely and positively the Front-Rank functions in the conservation of fuel.



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"Good Bye! We're Going Home—Front Rank is too Hot!"

Founded 1880 by Daniel Stern

Thoroughly Covers
the Hardware, Stove,
Sheet Metal, and
Warm Air Heating and
Ventilating Interests

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CHICAGO, MAY 5, 1923.

\$2.00 Per Year.

FARMERS ARE BUYING AT GOOD RATE.

According to the statements issued on May first by the two principal retail mail order houses, the American farmer continues to buy at a generous rate—and his purchases cover every line of merchandise.

April sales of Sears, Roebuck & Company were over nineteen million dollars, an increase of more than thirty per cent over April, 1922.

For the same period Montgomery Ward & Company reported sales of eleven and a half million dollars, the increase being 56½ per cent, and the sales breaking all April records of that company.

Sales of the two concerns for the first four months of 1923 total over 117 million dollars, an increase of 35 million dollars, or nearly forty per cent over the same period of 1922.

These figures are not given simply as a matter of news, but rather to cause those hardware retailers whose business during the early months of this year failed to show a fair increase, to consider what the real reason for this failure may be.

The fundamental reason for the tremendous growth of the retail mail order houses is their consistent policy of regular, specific advertising.

The reason for the big increase they are showing in their sales so far this year is not that the farmers are extraordinarily well off and have lots of money to spend, for they have not.

The real cause of their large sales is that same policy of aggressive "go-get-the-business" attitude.

The same policy applied to the hardware dealer's business will result in similar results.

In Memoriam



Daniel Stern,

Founder of

American Artisan and Hardware Record

May 4, 1920

May 4, 1923

Random Notes and Sketches.

By Sidney Arnold

I have visited the Homer Furnace folks a number of times at their factory in Coldwater, Michigan, and have always been impressed with the spirit which pervades the entire organization, from the office boy and the apprentice to the president, Sam D. Strong—they are all of the "We" class. It is immaterial whether you go into the big sheet metal shop, or into the foundry or into the pattern room, or into the office—every one is working for the interest of "our" company.

The other morning I arrived at the plant about 7:30 a. m. The main office entrance was not open and I walked over to the large parking place where the employes' autos and bicycles are taken care of during the day. One of the truck drivers was raking out ruts in the cinder road, but came over and invited me to enter through the employes' door, and after a few minutes the office commenced to fill up.

One very noticeable thing I observed was that the girls were not indulging in "painting" practice, nor was there any manicuring going on. They were chatting at a lively rate and did not stop when Bruce Strong, the First Vice-President, came in. Before the clock struck eight, however, every one was at his or her desk and working.

I spent more than three hours, going through the plant, and found not a single instance of loafing or "soldiering," and I am inclined to believe that if any one should make an attempt to do so, it would not be necessary for any of the foremen to get after him. His fellow employes would make it very plain that he would have to keep "on the job" or else lose his job.

Sam Strong has four sons and they are all directors and officers in the company, but there is nothing in their actions to indicate that the success of the company has gone to their heads; the boys ride in

flivvers, and that is about as good a proof as any that they consider themselves just "one of us."

That is the sort of spirit that is bound to result in the full-hearted cooperation which always brings big success.

* * *

A. J. Robinson, the former Excelsior stove man, who is now in the wholesale stove business for himself with headquarters at Quincy, told me the following story as a sample of the "carefulness" of some people:

The dear old lady entered the drug store and looked doubtfully at the youthful clerk behind the counter.

"I suppose," she began, "that you are a properly qualified druggist?"

"Yes, madame."

"You have passed all the examinations?"

"Certainly."

"Never poisoned anybody by mistake?"

"Not to my knowledge."

"Very well, then," she replied, heaving a sigh of relief and laying a coin on the counter. "You may give me a nickel's worth of cough drops."

* * *

John C. Newman, of J. C. Newman & Son, Springfield, Illinois, celebrated his seventieth milestone recently. Other septuagenarians have told me that it is exceedingly pleasant, after a full and active life on the stormy seas, to succumb to the desire to drift away into that dreamy atmosphere of recollection, living in the past rather than the present. Not so with Mr. Newman, however. He is all action and attention and still carries on at his sheet metal business.

Of course, every one knows that Mr. Newman was at one time president of the Illinois Sheet Metal Contractors' Association. He has a host of friends both in and out of

the trade and they all wish him many happy returns for the ensuing year.

* * *

L. Kuehn, of the Milwaukee Corrugating Company, Milwaukee, Wisconsin, writes me that he is having a delightful time at Hot Springs, Arkansas. He is staying at the beautiful Mountain Valley Hotel "nestled away in the picturesque Ozark Mountains" at Mountain Valley Spring.

Judging from the tone of his letter, he does not intend to return just yet.

* * *

William Schwartz, of the Kant Break Ladder Company, sends me the following contribution:

Jones was getting in at 3 a. m. much bedraggled. There had been an argument outside his club and he had received decidedly the worst of it.

"You're a fine sight," ejaculated Mrs. Jones, who was waiting inside the door with the traditional rolling pin. "What on earth have you been doing?"

"Fight'n', m' dear," replied Jones candidly. This was visibly a case for frankness rather than evasion.

"And got most of your clothes torn off, I see."

"Well," explained the offender apologetically, "tha's aw' ri'. It's most time for bed anyway."

* * *

"It isn't always the fellow who makes the biggest noise that carries his audience along," says F. G. Sedgwick, of the Waterman-Waterbury folks up in Minneapolis, "but as will be seen from the following conversation, in some cases, he does:

"Stranger: 'Who is that fellow over in the corner of the postoffice making so much noise?'

"Native: 'Oh, that's only old Jed Turner. He's harmless. He's just talking to himself.'

"Stranger: 'What? All that racket and just talking to himself?'

"Native: 'Well, you see, he's mighty hard of hearing.'"

* * *

"Does fishing make men liars or do only liars fish?"

Furnace Manufacturers Hear of Great Opportunities in a Really Cooperative Advertising Campaign.

W. M. Mumm, Who Knows Whereof He Speaks, Suggests Methods for Acquainting General Public with Merits of Warm Air Furnace.

THE subject assigned to me is so large in its scope, and presents so many interesting as well as important phases, that it would be a hopeless task to attempt covering it fully within the time limits which a proper regard for your patience and fairness to the other speakers will permit. It is therefore fortunate for me that cooperative advertising is not entirely new to your Association, because of the experience you had in this respect some years ago. I remember that campaign distinctly because my house was one of the contenders for the handling of it. Some of your officials, who were charged with the responsibility of launching your program, were good enough to be quite complimentary with reference to the plan we submitted at that time. I still have my copy of this plan, and it is a source of considerable satisfaction to find that the fundamental ideas then presented have been proved sound in more than one association advertising campaign launched since that time.

This earlier experience of yours, therefore, obviates any necessity for taking up much time in discussing the basic reasons for cooperative advertising. If the results you accomplished at that time failed in any way to measure up to the full expectations of some of your membership, that must be charged to the necessity of prematurely discontinuing the campaign during the war, and not to any failure of the plan then adopted; nor can it serve as an argument against cooperative advertising, itself.

To merely recite the list of cooperative successes that have been made in other industries would be wearisome. Just a few of them will suffice to demonstrate that cooperative advertising is sound in principle and that its success or failure

hinges upon the attitude of the membership and the method employed. Let me quote just a few examples. The California citrus fruit growers have more than doubled their market; the cypress lumbermen of the South showed the value of cooperation to the pine lumbermen of the North; right now the Face Brick

In this article W. M. Mumm points out in a clear, instructive manner how a cooperative advertising campaign should be organized to produce profitable results.

He draws on his broad and valuable fund of knowledge and lengthy experience in the advertising field to explain why various large-scale advertising campaigns have succeeded and why others have failed.

He stresses the necessity of setting the time limit of the campaign at not less than three or five years, and tells dealers what benefits they can reasonably expect from a concerted, continuous, cooperative advertising campaign.

Association, the Copper and Brass Research Association and the Mahogany Association are conducting cooperative campaigns; the raisin growers in a few short years have more than trebled the annual per capita consumption of their product; the National Canners' Association has "sold" the American consumer in unexpected numbers the healthfulness and economy of canned vegetables and other foods; the walnut growers have increased the consumption of walnuts by over 50 per cent; still more recently, we have the example of the Paint and

Varnish Manufacturers, whose campaign was built around the slogan "Save the Surface and You Save All." Back of these successes you will find the two fundamental requirements without which no campaign of this kind can hope to succeed; namely, genuine and wholehearted cooperation between the members of the Association, and a carefully worked out plan of advertising and merchandising.

I have mentioned first (because I consider it the most important), genuine cooperation among the membership, which includes active support, financial and otherwise, of any plan that is undertaken. The hardest job, as a rule, is to sell the cooperative idea to the membership of an industry. Until at least a respectable majority of the membership are thoroughly sold and definitely committed to cooperation, it is useless to undertake any sort of program. After that has been put over, there remains the interesting and vital problem of how to raise the necessary funds. This necessitates adopting a method which divides the expense on a basis of equal fairness between all members, and which affords each one an equal opportunity to share in the benefits derived in proportion to his contribution.

Nothing is farther from my mind than to attempt to lay down an arbitrary course to be followed by your officers and membership in solving these problems. With their intimate knowledge of your industry, they are quite capable of working them out, and it's only in the spirit of helpfulness that I take the liberty of dwelling at some length upon two of the outstanding essentials necessary for success.

So far as my information goes, failure to recognize the importance of the first of these has been responsible for most of the failures

that have occurred in coöperative advertising. Human nature is, always has been and probably always will be the same, and in this particular matter you are dealing largely, if not altogether, with the human element. In every association or group of individuals you will find first, the men with the vision to see the possibilities of any proposed new enterprise, and the sportsmanship, if you please, to step out unselfishly into new paths, with a full realization that such success as they may meet with will benefit others.

Next, we usually find a second group or section which require a selling effort to make them grasp the vision, and to get them to come in on the ground that the plan proposed will specifically benefit them. Among these will be found some who look for big results unreasonably soon, and if these fail to appear on schedule, disappointment begins to crop out, and it becomes extremely difficult to hold these men in line long enough to carry out the program to the extent necessary to insure its success.

Finally, in every industry there are some men who cannot see anything of value in coöperative efforts of this kind. That they reap without sowing, and profit from what the rest of the industry does, cannot be entirely avoided. However, once they realize that they are actually deriving some benefit from the work, many of them will be found ready to join and bear their just share of the cost, in order to share more fully in the results.

All this leads to the particular point I am trying to emphasize; namely, the necessity for adopting a program of sufficient scope in both time and money to insure success, as against the hap-hazard method of attempting to do it on a year-to-year basis. It is well in matters of this kind to borrow from the experience of others who have gone through the mill, and I wish to cite a striking example that illustrates my point.

I refer again to the "Save the Surface" campaign of the Paint and Varnish Manufacturers. I am reliably informed that at the outset they

would not accept anybody's subscription or anybody's membership for a period of less than five years. They realized that most coöperative advertising, as my informant puts it, "Is born in adversity and dies in prosperity." In other words, they know that when an industry is down in the mouth for any reason, it is fairly easy to raise money for advertising to bring the business back; once it begins to come back in noticeable measure, it is not uncommon to have members say: "Well, we have put the job over, and now we can stop spending money."

One has only to think of such examples as the bicycle industry in the old days, when it had finally got into the hands of one big group, who decided that since they made all the bicycles that were being made, they had the world by the tail with a down-hill pull, and canceled their advertising. In less than two years the waning interest of the public in bicycling brought about a receivership.

In days when most of us were quite a lot younger than we are now, there was a well known brand of laundry soap. Its makers were spending what in those days was considered an enormous fortune in advertising, and they actually made their trade name a "household" word. Then the directors decided that they had finished their job, and that it would be a lot more pleasant to spend their advertising appropriation in the form of dividends. The result was inevitable. For a year the sales curve continued upward, because of the momentum of the past advertising; in the second year after they quit advertising, the sales just about held their own; by the end of the third year, the whole proposition dropped into the cellar of failure with a dull thud. Later efforts to revive it, after the mistake was recognized, proved futile, and the present day generation of housewives does not even recognize the name.

Careful consideration of such facts made the Paint and Varnish Manufacturers decide on a five-year program, and while it may be ar-

gued that this is rather extreme, I believe no one will question the wisdom of a three-year program as a minimum. The money was first raised on a basis of $\frac{1}{4}$ of 1 per cent of the gross sales of every member of the Association, but it was found that even this small fraction was too much for some of the largest concerns, who do an enormous volume of business, and so their contribution was cut to $\frac{1}{8}$ of 1 per cent of their gross business, which has proven entirely satisfactory to all. It is stated that the utmost possible income for the entire industry on this basis is \$500,000 per year, but they found it quite satisfactory to appropriate for their campaign \$200,000 or approximately 40 per cent of the possible total.

Members of that Association will tell you that during the recent slump in business the paint industry did not suffer any material depression, although one would think that in hard times painting would be postponed as an unnecessary luxury. They attribute this remarkable condition to the success of their coöperative advertising. I am reliably informed that since the start of the campaign there has never been any let-down, either in contributions or enthusiasm, and they are seriously considering increasing the amount of their appropriation, because of the tangible results they have obtained so far.

If, therefore, I am permitted to make a concrete recommendation, it is that your Association give earnest thought to the matter of extending any program you may adopt over a period of at least three years, and that those participating therein pledge themselves accordingly. The amount to be raised, or the method used for raising it, can hardly be determined at this moment, and it had better be left to the discretion of your officers, or some committee to be appointed for that purpose.

The second important essential that I spoke of as being vital to the success of any such campaign is the method to be employed in carrying out the whole scheme. It is not my purpose to take your time here in

discussing advertising in its various forms and phases. I would rather deal with this subject on a broader scale, first, with reference to what may be accomplished by it for the whole industry; secondly, how the members who contribute toward it may benefit directly in their own individual businesses. It would not be surprising if some were found who take the position that the heating and ventilating industry is dealing in such a basic staple that nothing can be gained by advertising. Their attitude is: "Everybody has to have heat, and therefore, must have some form of stove or furnace for the purpose."

The fallacy of such an argument appears the instant you begin to analyze conditions as they are. If I could show you the actual figures of the homes in this country poorly or improperly heated; if I were able to flash before you in figures the building program that is ahead of us in every city and village for years to come; if I could by some magic picture to you the absolute lack of knowledge on the part of a vast majority of our people with respect to the principles of proper heating and ventilating in relation to economy of fuel consumption, you would be startled, in spite of all you may know about your own business; and, more important than all these I believe, and offering the greatest possible field for education, is the relation between proper heating with warm air and the health of our people. If any campaign you undertake did nothing more than show the people at large the importance of just this one thing, it would mean such a casting out of antiquated or badly installed heating systems as would promptly put every one of your factories months behind orders.

Naturally, a coöperative campaign of the kind we are considering cannot possibly deal with any specific type, or any particular model of heating device. The principal difference between coöperative advertising and the advertising by individual manufacturers lies right here—the coöperative campaign must be broadly educational and must deal

only with fundamentals, while the advertising of the individual firm endeavors to create or hold a market for a particular product, under a specific firm-name or trade-mark. Coöperative advertising, therefore, measures its success by new markets opened up and old markets expanded; by new uses developed for old products, and by the permanent good-will created for all those who march under the banner of a successful association. In other words, coöperative advertising in your in-

The principal difference between coöperative advertising and the advertising by individual manufacturers lies in the fact that the coöperative campaign must be broadly educational and must deal with fundamentals, while the advertising of the individual firm endeavors to create or hold a market for a particular product, under specific firm-name or trade-mark. Coöperative advertising, therefore, measures its success by new markets opened up and by old markets expanded.

dustry must not concern itself with the number of nuts and bolts that are necessary to build a successful furnace, but with the broader questions of health, fuel economy, and satisfactory heating service.

This latter subject brings me to what I consider one of the most vital aims of such a campaign. In addition to knowing something about the matter from my own experience and that of my friends and neighbors, in my twenty years of advertising experience I have been fortunate enough to have had more or less intimate contact with many furnace manufacturers and dealers. They all agree that the two greatest handicaps in your industry today are bad flues, due to poor chimney construction; or improper installation, due to carelessness, indifference or ignorance. The worst enemy to your product is, doubtless, the bad

chimney, which is something you cannot very well control. But the best furnace in the world, with the best possible flue, will not give satisfactory service if not properly installed or equipped. Many a good furnace has received a black eye in a neighborhood, or even in a whole community, because the man who installed it did not know his business, or allowed the house-owner or builder to dictate, contrary to the judgment and expert knowledge of both dealer and manufacturer.

This sort of experience was particularly marked in connection with the pipeless furnace. A good pipeless always has had and always will have its proper place. Your own association showed wisdom and good judgment in its attitude toward this device when it first became a factor, recognizing its value, yet at the same time pointing out its limitations. Some of you men have humorously referred to it as the "arrow method" of heating, and I cheerfully admit responsibility for a good many arrows. It was not the pipeless furnace, itself, that did any harm to your industry. It was the lack of expert knowledge, the over-enthusiasm of its friends and in some cases a poor product sponsored by greed, that led to many a warm air job being converted, not from pipeless to those with pipes, but from warm air to steam or hot water.

I could cite many examples from my own experience, such as a dealer, rather than losing a sale, would place a furnace where he knew it didn't belong, because the woman of the house insisted on keeping her favorite couch in the place where the dealer knew the furnace register ought to go. The cure for this is education, and this education can be effected most economically in the widest possible scope of advertising. Such a campaign as I have in mind will go a long way toward educating the dealer and his employes in proper methods, and educating the householder to the vital importance of letting the experienced dealer do the job the right way.

There is another question of even

greater importance to your industry, and one which will find at least a partial solution through coöperative advertising. I refer to that bugbear known as "unfriendly legislation." Every state, almost every city, has its own particular building code, and the various and different requirements put upon the industry are practically as numerous as the number of cities in the country. I am sure you will not be offended when I say that this condition has been largely the fault of your own industry, because until quite recently your own membership, and that of allied industries, have not agreed upon anything like a uniform code. What wonder, therefore, that in the absence of any safe and sane regulations, fathered by the industry, itself, you should be handicapped by this kind of legislation by the various city councils, and other bodies having control of these matters? I should not call it "unfriendly" so much as "mistaken" legislation, resulting from lack of knowledge. Who should be better able to impart proper knowledge than your own membership, your own association? And how better can you accomplish this than by an advertising campaign such as I am here proposing?

You and your allied industries have finally, after much effort and labor, found a common ground in the form of a code approved by those who know most about it. Now that you have it, what are you going to do with it? How are you going to get the consumer, the dealer, the architect, the building contractor, and city and state officials to accept your code? You have had made, at considerable expense, an exhaustive research that has produced valuable results, eliminating mere guess work as a factor in heating engineering. How are you going to reap the full benefit of this? I know of no other way than by advertising, and since no one, or two, or three manufacturers can possibly hope or afford to put that across as individuals, the conclusion is inevitable that the solution must

be sought by your whole association on a coöperative basis.

I have referred earlier to definite and direct benefits to the individual members of your association in their individual businesses. I don't mean by this merely the obvious fact that any constructive move that helps the whole industry, helps the individuals who compose that industry. Under that interpretation we must admit that all those engaged in your industry, who do not join in your campaign, are still going to get considerable benefit out of your effort. This cannot be avoided altogether, but it can be greatly reduced.

Let me put it another way. There are definite and concrete benefits which individual members, who do contribute to the campaign, can get out of it, which benefits need not necessarily be fully available to those who do not join in. You have already covered the matter after a fashion in your previous campaign, by adopting your own particular membership device or emblem, which appears in all your literature, has been furnished to your dealers, and is, or should be, used by every one of you in your own individual advertising, down to your letter-head and bill-head. This device, properly staged in your coöperative advertising, must be the visible connecting link in the minds of the public between its increased faith and good will for any product bearing the emblem of the association, and the product of the individual manufacturer who is entitled to use the emblem on his goods.

If your association exercises the proper care in not permitting this emblem to be used by any manufacturer whose goods do not measure up to your own standards, no matter how much money he can contribute, and thereby put yourselves in a position to say definitely to the public that any product in the heating industry bearing this emblem is trustworthy and reliable, there can be no question of the definite and direct beneficial results following to the individual members of the association.

I believe you can profitably carry

this idea still farther by loaning, instead of giving or selling this emblem to your members, and the members in turn loaning it to the dealers, with a distinct understanding that it remains the property of the association, and can be recalled whenever membership is dropped or whenever a dealer connection is discontinued.

There are many more angles to this whole matter which I could elaborate upon, but it would be putting a needless burden upon your time. Let me just briefly point out that a campaign of the kind we are considering will not alone produce the desired effects already mentioned. It will stimulate individual advertising on the part of your membership, and every constructive job of this kind done by the individual firm helps the whole industry. Such a campaign will stimulate a new interest, not only on the part of the ultimate consumer, but more particularly on the part of the dealers upon whom you rely for the distribution of your goods, their sales force and yours, and of every workman down to the last helper.

Such a campaign will help you solve the problem arising from the habit people have of putting off repairs, replacements, and new installations until cold weather arrives, with the result that your dealers have hard work finding enough to do to keep their men busy in the summer months and doubly hard work finding men enough to do the work that piles up on them in the fall. You should be able by this campaign to educate the consuming public into making installations as soon as the basement of the new house is ready, to make replacements and repairs in the summer months, thereby enabling the dealer to buy from you earlier, and at the same time, enabling him to do better installation work.

This campaign should increase your membership until every desirable firm or individual in the industry becomes an active, supporting member of your organization. If properly conducted, this campaign will not merely create that tangible

asset known as public good will, but it will also, in due course, bring back to the members its cost in dollars and cents many times over.

In closing, let me repeat, that such a campaign must not be entered into without the earnest and active support of at least the majority of your membership, and it must not be undertaken on any hand-to-mouth or year-to-year basis. First, it requires a careful survey of the industry and of the possible market; then, a

definite idea of just what you are going to try to accomplish; third, a definite pledge from your membership to furnish the necessary financial support for not less than three years; and finally, the launching of a carefully worked out plan of advertising through the various desirable media. The good resulting from such a combination for everybody concerned will be just as definite as that two and two make four.

Foss & Jones, California, Send Challenge to Warm Air Furnace Manufacturers.

Want Supposed Apparent Incongruity in Heating Power and Ratings of Various Makes Explained.

THERE is considerable food for thought for manufacturers of furnaces in the following letter to AMERICAN ARTISAN AND HARDWARE RECORD from Foss & Jones, 28 East Union Street, Pasadena, California, regarding what seems to them to be a serious disparity in the ratings of the warm air furnaces made by the various warm air furnace manufacturers, and in order to clear the matter up, AMERICAN ARTISAN invites a thorough discussion through its columns by furnace manufacturers as to how they arrive at the rating of their furnaces: "To AMERICAN ARTISAN:

"In looking over many of the catalogs of the eastern manufacturers of furnaces we find that there is a great difference in the rating of these furnaces; that is, as to the number of cubic feet which the several different furnaces will heat. We have made quite a study of this point and find that some manufacturers, who have a 36-inch casing for their furnaces, are claiming the same heating area as others who have 40 or even 48-inch casing.

"We should be much pleased to ascertain through you, from the eastern manufacturer, just how they obtain these several different ratings. If one furnace with 100 pounds of coal will heat 5,000 cubic feet of space and another furnace using same amount of coal will heat say

7,500 cubic feet of space, why and where does the difference come? Both have used the same fuel, but one heater has proved to be of far greater efficiency than the other. What has the amount of radiation surface to do with the results at the end, and how is this heating surface computed in proportion to the amount of fuel consumed.

"We were wondering if the manufacturers of the furnaces are putting their products through a strong laboratory test, in order to find out what their furnaces will do. Sometimes we are led to believe that whenever a new manufacturer starts into the furnace 'game,' he consults catalogs and ratings of other manufacturers and then says that if other manufacturers' furnaces will heat a given amount of space, his will do the same thing, and consequently the public is led to believe all that they read in this way.

"We are at a point just where we want to know how to proceed to ascertain facts that we can rely upon as to what certain furnaces, with a given amount of rating surface, will heat and the amount of fuel required for so doing.

"We realize this letter will cause some considerable comment and possibly explanation will go forward to you which will not only be beneficial to us, but to others that are as 'deep in the sea' as we are along this line.

We have had tests made of several heating appliances in the past and we knew practically no more about it when we were through than before the test was made.

"In conjunction with the above question, what has the different climate to do with the heating areas of different furnaces? In California we are only required to raise the temperature of certain rooms from 40 degrees to the usual 70 degrees or 72 degrees; yet when we were in similar business in the east, it was required to raise the temperature from 20 below zero to about 70 degrees above, which is a vast difference, we assure you; so in the manufacturing of eastern and western goods, will not some one take up the matter in general and give us just the right plan to follow along the manufacturing line?

"In closing, would say that there seems to be only about three or four questions that should be necessary; namely, the amount of fuel to use for a given number of feet; surface area to be heated; and the amount of radiation surface required in order to do this in an economical way. The heating business in this country is confined largely to gas ranging from 650 B.t.u. in some localities, while in others it will run as high as 1,150. So here is another problem for readers of your journal to figure out.

"Foss-Jones Company."

"Pasadena, California."

C. J. McClure Wants Catalogues of Sheet Metal Supplies, Tools and Warm Air Furnaces.

In a letter to AMERICAN ARTISAN, C. J. McClure, 1475 South Pearl Street, Denver, Colorado, states that he has opened a sheet metal and furnace shop, with lots of work on hand and many prospects. He was formerly located in Lexington, Nebraska.

Mr. McClure, who is one of our subscribers of many years' standing, also states that he would like to have catalogues of sheet metal supplies, tools and warm air furnaces sent to him.

Heating and Ventilating Engineers Will Hold Summer Meeting in Chicago, May 21 to 23.

The following letter from C. W. Obert, Secretary of the American Society of Heating and Ventilating Engineers, announces the dates and place for the semi-annual meeting of the Society:

It gives us pleasure to announce that the Council of the Society has selected the city of Chicago as the meeting place for our semi-annual meeting of 1923. It will be held Tuesday, Wednesday and Thursday, May 21, 22 and 23. This is in the same week as the Convention of the Heating and Piping Contractors' National Association.

The Drake Hotel on Lake Shore Drive has been selected as headquarters for the meeting. It is the general opinion that this selection will prove ideal and will meet with universal approval, as it is also the headquarters for the Heating and Piping Contractors' Convention, which will open there May 23, the last day of the Society's meeting.

This will prove an unusually important meeting, professionally, as the chairmen of the various sectional committees appointed to prepare a Code of Minimum Requirements for the Heating and Ventilation of Buildings, will assemble for the purpose of making a progress report. One entire day will be devoted to the Research Session, when the results of the investigations made during the past few months will be presented and discussed. The last day of the meeting will be given over to papers and discussions on heating and ventilation, and in connection with these subjects many surprising findings and conclusions will be revealed.

It may be added that an exceptionally interesting program for the entertainment of our members and guests is being provided, and will include receptions, dances, dinners and sight-seeing trips in and around Chicago. Chicago has excellent amusement facilities and the members of the Committee on Arrangements are already actively engaged

in preparation of all the details of the summer gathering in order to insure a huge success.

In view of the unusual importance of this meeting, we feel you will be interested in presenting in your columns a statement concerning the features of the meeting, and the officers of the Society extend a cordial invitation to everyone interested to attend and participate.

Hoping to have the pleasure of seeing you represented at the meeting, I am,

Yours truly,
C. W. OBERT, Secretary.

Barnes Uses Electric Fan to Equalize Temperature in Furnace Heated Rooms.

Advising against the too general use of electrical room heaters, A. S. L. Barnes, a correspondent to *Electrical News*, Toronto, Canada, tells how he has made use of a nine inch electric fan to equalize the temperature in a room, as follows:

"Articles have recently been published in the electrical press advocating the use of electric heaters. In some of these articles the suggestion is made that electric heaters should be used during very cold weather to help out the domestic furnace.

"Now it is all very well to give all possible publicity to the advantages of electric heaters; they are most excellent things in their way, but too much, even of a virtue, is apt to become a vice, and a multiplicity of heaters switched on during the winter peak will create a most vicious condition of voltage regulation—so much so that electric lighting will be extremely poor and electric cooking almost impossible if the heating load should coincide, as it probably would do, with the lighting and cooking loads.

"There is, however, readily available, a method of helping the furnace, which, while not crippling the resources of either generating stations or distributing systems, will benefit the householder; this method is to employ an electric fan on the very cold days instead of a heater.

"To most people it is not news

that the temperature at various levels in an artificially heated room is far from uniform and actual tests show that, under ordinary conditions, the following temperatures may be found in the average room during the winter time in this country:

"At floor level about 58 degrees Fahrenheit.

"At five feet above the floor, about 68 degrees Fahrenheit.

"At the ceiling, about 80 degrees Fahrenheit.

"Actual trials made by the writer have shown that, in a room of average size, a 9 inch electric fan will so circulate the air (if pointed at an angle towards the ceiling, there need be no draught felt) that the above temperatures will in a few minutes become, respectively, about 60 degrees F., 65 degrees F., and 70 degrees F., thus creating a very much more comfortable condition.

"Not only are one's feet actually warmer but the temperature around the feet and head respectively are much more nearly equal. This in itself tends towards increased comfort. Again, the excessive amount of heat which ordinarily goes to warm up the ceiling, is utilized to good purpose.

"All this benefit is obtainable by the expenditure of an amount of energy (in the fan) which is quite insignificant; and it seems reasonable to suppose that an actual saving would be effected by the adoption of this plan on account of the utilization of a considerable amount of heat which otherwise is of very little practical use. Lacking any definite data one hesitates to estimate what such saving might amount to, but at least it would probably be much more than to counterbalance the cost of the small amount of electric energy required to run the fan. In view of the foregoing it would be a better policy for all concerned if the electrical press would advocate the use of electric fans, during the period when furnaces are in use, rather than of electric heaters. Even with an electric heater a fan will greatly increase the efficiency of distribution of the

heat developed and add much to one's personal comfort if one has the patience to wait until a comparatively small heater of, say, 660 or 1,000 watts capacity has had time to warm up all the air in the average room.

"The benefit of this plan will easily be felt on a cool day in about an hour and though the room may feel chilly during the warming up period, much greater comfort will be experienced afterwards.

"The highest desideratum of any system of heating is to make people feel comfortable, not necessarily to reach any particular temperature, and a fan will greatly assist in doing this. Try it!"

Mr. Barnes is right in his contention, inasmuch as an electrical heater is, at best, only a make-shift, but if he had placed the fan in the cold air duct, near the furnace, he would have equalized the temperature—not only in the one room, but in every room of the house—by the simple means of sending more warmed air into every room and necessarily causing a greater flow of air through the entire house, as has been proven in many instances where such fans have been installed.

Here's How Furnacemen Boost AMERICAN ARTISAN.

TO AMERICAN ARTISAN:

It is with pleasure that I glanced over the issue of April 21st and had the account of the Convention read to me in part, and I want to congratulate you upon the excellent manner in which you have given publicity to the Tenth Annual Convention of the National Warm Air Heating and Ventilating Association, which was presented in an educational way to the American public the merit of Warm Air Heating. It is without question a speeding up of progressiveness on the part of those who are interested in manufacturing, distributing and installing of warm air heaters throughout our nation and thereby building happier and more comfortable homes and which will eventual-

ly lead to a thorough education of the public as to the necessity of heating and ventilating the homes and the establishment of more healthful conditions for the family circle.

It is also gratifying to note the magnificent cooperation you are giving our industry and we feel sure that the cooperation is mutual and that it will reflect not only to the industry, but to the public at large the greatest benefit in home building and home life.

Sincerely yours,

JOHN P. WAGNER,
Chairman, Publicity Bureau.
Columbus, Ohio, April 25, 1923.

TO AMERICAN ARTISAN:

Please accept my sincere thanks upon the comprehensive way in which you reported our convention last week.

I am sure the members as well as myself, will appreciate it.

Yours very truly,

ALLEN W. WILLIAMS,
Secretary.
Columbus, Ohio, April 25, 1923.

Keith Furnace Company Aids Dealers in Advertising.

Keith Furnace Company, Des Moines, Iowa, have issued a broad-side circular which shows the liberal, hard-hitting sales and advertising cooperation the Company gives its dealers.

In this circular the Company sets forth the fact that every new home that is built means a furnace prospect, and thousands of homes are remodeled each year to provide for a furnace. It calls attention to the fact that Keith Monitor Furnaces are sold for schools, churches, halls, store buildings, garages, etc.

It says that fads and fancies spring up in the heating business, but the old reliable warm moist-air furnace circulating heat directly to each room, remains the standard, economical, satisfactory method of heating.

The circular is called the "Profitable Solution of a Burning Question," and it contains a number of

specimen advertisements for the dealers' use in their local newspapers.

Meyer Furnace Salesmen Hold Convention Lasting Three Days.

The traveling salesmen, branch house managers and other distributors of the Meyer Furnace Company met in a Sales Convention for three days of the week just past.

It is safe to say that they left for their respective territories with the sort of "Pep" that brings in orders, but also that they will be of greater assistance to the customers of Meyer Furnace Company in helping them solve installation and resale problems.

American Foundry & Furnace Company Will Build Addition.

Additional space which will permit the American Foundry and Furnace Company, Bloomington, Illinois, to expand its facilities for the manufacture of furnaces and boilers, will soon be available since the Company has let the contract for a two-story warehouse, 50x80 feet, to cost \$15,000.

Says AMERICAN ARTISAN Is Wonderful Help in His Business.

TO AMERICAN ARTISAN:

We have enlarged our business and have added a stock of paints and hardware to our other lines, warm air furnaces, sheet metal work and roofing, and would appreciate having you add these to our card in your index files.

You will also kindly change our address on your mailing list to 1621 North Elizabeth Street, so that we will not miss a copy of AMERICAN ARTISAN, which has been a wonderful help in our business and which will be of double value now with our new lines.

Yours very truly,

U. E. ABRAHAMS.

—, Illinois, April 28, 1921.

Don't think for a moment that any man is interested in your troubles—unless he is a lawyer.

Pattern for Double Pitched Roof Flange Cape Surrounding Stack as Ventilator Where Roof Is Steep.

Makes Working Drawing of Device to Prevent Weather From Getting Into Boiler Room.

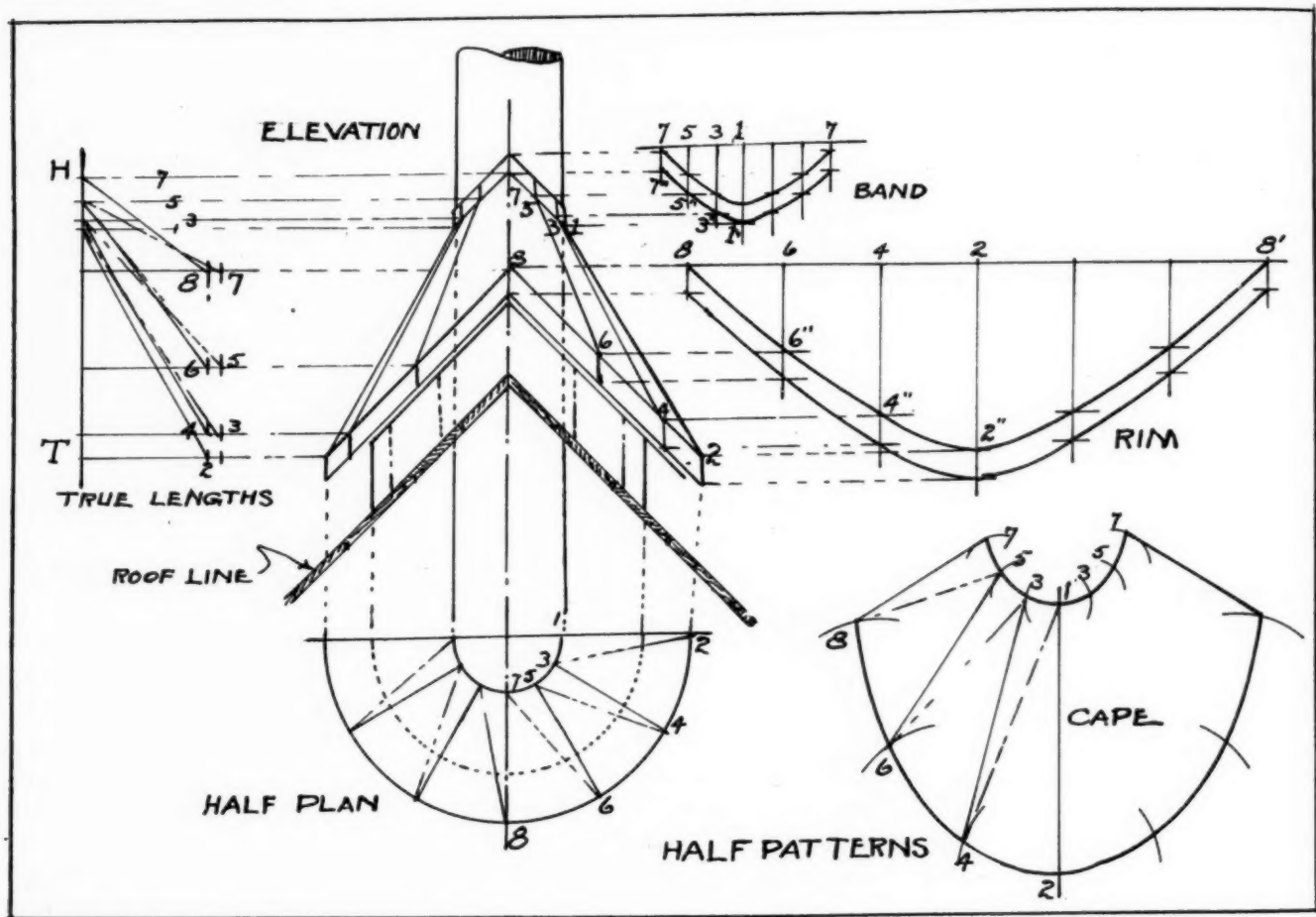
Written Especially for AMERICAN ARTISAN AND HARDWARE RECORD, by O. W. Kothe, Principal, St. Louis Technical Institute, St. Louis, Missouri.

WHERE stacks pass through steep roofs, a cape often surrounds the stack as a ventilator and to prevent the weather from getting into the boiler room. It is possible that the cape is cut on a gable as 2-8, but it is not often that the

outlines of elevation can be drawn in. The large semi-circle of plan is divided in any number of equal parts and lines are drawn to the center, thereby dividing the smaller circle at the same time. Draw lines from one point to the

drawing these lines to the proper altitudinal height line around point H we have the true lengths.

Now to determine the true girth, along the edges and top and bottom of cape, we must first develop the bands and the rim. So pick the



Working Drawing of Flange Cape.

top is cut parallel with it as 1-7, that is unless the stack is quite large and a steep pitch would be met with. But this treatment is interesting, as it shows getting true lengths from various outlines, also developing girth bands along inclined spaces, that are curved in plan.

So first draw the elevation of stack and describe the plan making the distance 1-2 to suit and with this

other as 1-2; 2-3; 3-4, etc. From these points erect lines into elevation and that gives you those lines on the bands bottom and top as 2-4-6-8 and 1-3-5-7. To find the true lengths we draw the line H-T and pick the plan lines 1-2 and 2-3 and set them off as T-2 and T-3. As all these plan lines are of the same length, we square up lines which gives points 2-4-6-8 and 3-5-7. By

girth from plan for the upper band as 1-7 and set it off as 7-7 and then develop the pattern by projecting lines over as shown. In a similar way we developed the rim by picking spaces 2-4-6-8 from plan and setting them as 8-8' and then developing the pattern as shown. Observe spaces 2"-4"-6"-8" are for the girth the lower edge of cape and that the spaces 1"-3"-5"-7" are for

the girth on the top edge of cape. After this develop the cape after the manner of all tapering fittings taken up in past issues.

Indiana Sheet Metal Men Will Have Outing July 2 and 3 at Lake Wawasee, Indiana.

Arrangements have been made for the first annual joint outing of the Indiana Sheet Metal Contractors' Association and the FurMets, the organization of salesmen of sheet metal supplies and furnaces.

The dates are Monday and Tuesday, July 2 and 3, and the place is Sargent's Inn, on Lake Wawasee, about ten miles from Goshen, Indiana.

The hotel management of Sargent's Inn has agreed to provide rooms for 100 at the rate of \$3.50 a day for lodging and meals, with special rates for meals for those who may wish to camp in tents, for which there is ample space, or who may drive over for a day only.

Free parking and camping space is also assured.

There will be a dance on the evening of Monday, July 2, and baseball games, golf and horseshoe pitching contests have been arranged. One ball game will be between picked teams of sheet metal contractors and FurMets.

Reservations for this outing, which bids fair to be a highly enjoyable affair, should be sent to N. W. Manrow, 508 E. Washington Street, Goshen, Indiana, specifying how many will be in the party, how many rooms will be wanted, the length of stay, etc.

"Tinnners' Roost" to Be Established Near Daytona, Florida.

We understand that the sheet metal contractors of South Bend, Indiana, are to have a regular place of their own in Florida, where they may go for the winter and spend the profits they make during the rest of the year.

The prime movers in this enterprise are J. C. Lauber and John N. Frank, the latter having purchased

a five-acre tract, 125 miles south of Jacksonville and half way between Orlando and Daytona, on a branch of the Atlantic Coast Line railroad.

Plans are being formulated for improvements, including planting two acres with orange trees and building a club house with sleeping rooms.

It is the intention to transfer the property to the South Bend Sheet Metal Contractors' Association at a meeting in the near future, and when the place is fixed up, any sheet metal contractor will be welcomed there.

National Sheet Metal Contractors and Missourians Convene, St. Louis, June 25 to 29.

The Third Annual Convention of the Missouri Sheet Metal Contractors' Association will be held in St. Louis June 25 at the Hotel Statler. "And that 'Ain't' All," because the National Association of Sheet Metal Contractors will follow this convention with a four-day meeting June 26 to 29 at the same place.

Otto E. Scheske, Secretary of the Missouri organization, invites everyone to make the last week in June his vacation week and attend both conventions.

Kant Break Ladder Company Buys 100 x 150 Foot Factory in St. Louis, Missouri.

The Kant Break Ladder Company, Incorporated, which is a result of the reorganization of the Walchli Manufacturing Company, has purchased a plant in the downtown manufacturing district of St. Louis, Missouri, the building occupying 100x150 feet in ground space. Mr. Walchli, the inventor of the Kant Break Ladder, has for many years been engaged in the sheet metal contracting business and, because of the many dangers of the ordinary ladder used by sheet metal men in their work, set his mind upon the designing and making of a ladder the use of which would stop many of the accidents, such as spreading of the uprights, breaking of the rungs and uprights.

He finally succeeded and has now produced for a little more than a year a ladder—no heavier than the ordinary type—but so constructed that it is virtually impossible for it to break.

The new company extends a cordial invitation to the sheet metal contractors who expect to be in St. Louis for the National Convention during the last week of June, to inspect their plant and their product, and will have automobiles going back and forth for the convenience of visitors.

President Burgess Appoints Directors for Illinois Auxiliary.

S. P. Burgess, President of the Travelers' Auxiliary of the Illinois Sheet Metal Contractors' Association, has appointed the following directors for the coming year:

Thomas W. Cox, St. Louis, representative of the Haynes-Langenberg Manufacturing Company.

A. E. Ketchum, West Chicago, representative of the Wheeling Corrugating Company.

W. P. Laffin, Chicago, representative of Tuttle & Bailey Manufacturing Company.

A. H. Schiewe, representative of the Berger Manufacturing Company.

Texas Sheet Metal Contractors Will Meet in Dallas June 21 and 22.

The Texas Association of Sheet Metal Contractors will hold their annual convention in Dallas on June 21-22. J. O. Walsh, 1216 Commerce Street, San Antonio, is Secretary. The announcement includes an invitation for all sheet metal contractors in the state to meet with the Association members in Dallas and become acquainted with the members and with what they are doing, and then join and participate in the work of the Association.

If you think you have to chew on something while working around the store where you will meet customers, watch yourself in the mirror for a few minutes of chewing.

What American Zinc Institute Is Doing for the American Zinc Industry.

Editor of Journal Gives His Impressions of What the Past Five Years of Institute's Activities Mean to the User of Zinc.

IN a recent article by Felix Edgar Wormser, Assistant Editor of the *Engineering and Mining Journal-Press*, a review is made of the history of the American Zinc Institute and also a prophecy of the effect of its activities upon the industry as a whole, from the miner of zinc ore to the user of zinc sheets or brass. Excerpts from this article which are of especial importance to the sheet metal contractor are quoted in the following:

On turning the knob on the door of its modest New York offices and entering, a person unfamiliar with the work of the American Zinc Institute would probably inquiringly view the grand assortment of zinc manufactures, shingles, gutters, leaders, and nails, that meet his gaze, and might incorrectly conclude that someone is contemplating building an addition to the office. Zinc producers are so intensely interested in widening the market for their product that they have used their association to gather an interesting and comprehensive collection of zinc articles—a minor phase of the institute's work, but one that is immediately noticeable. Other phases quickly become apparent as one delves into the causes which led to the formation of the organization and learns that in the five short years of its existence it has become the best-organized trade association in the non-ferrous metal-mining industries, with about 95 per cent of the American Zinc Industry represented in its membership.

Sheet Zinc Has Many Uses.

At first blush it may be difficult to think of any important independent industrial applications of zinc that give much promise of affecting production. However, the home wash-board, fruit-jar top, tips for shoe laces, buckets, pails, alarm clocks, dry-cell batteries, hot-water

bottle caps, window glazier-points, refrigerator linings, table tops, sinks, nails, toilet preparation boxes, picture frames, cameras, humidors, and many other common examples of the interior use of zinc may be mentioned. But the greatest effort to widen the consuming channel at the present time, and one that gives much promise, is the exterior application of zinc to shingles and other building materials where the ability of zinc to withstand corrosion can be utilized to good advantage. Unfortunately for zinc, however, the competition for the roofing business is intense; in fact, the prospective home or factory builder may become quite perplexed nowadays over the choice of a proper material with which to build a roof. Should he use zinc or copper, asbestos, rubberoid, slate, terra cotta, iron, tin or nickel plate, lead or aluminum—or go back to wood? Many of these substances are being vigorously pushed as excellent roofing. Naturally and oddly enough, they all possess merits that can be enlarged upon to furnish ammunition to the advertiser and confusion to the buyer. Cheapness, cold and heat-resisting qualities, and durability have all been stressed. Zinc compares well with other materials, and has a record of successful use in building construction that speaks better than any theoretical considerations. European builders have used zinc for a longer time than those of the United States. Many roofs said to have been built in Belgium between 1820 and 1850 are still giving service. The application of zinc for this purpose in the United States is only now beginning to look promising and successful. Early attempts to use zinc as a roofing were sometimes failures, due to an inferior quality of metal or to improper application. Then again,

quality of permanence is not as important a factor in building in the United States as it is abroad. But zinc has proved so well adapted to roofing in Europe, and has been so little used in the United States, that an excellent field is open to its more extensive application for this purpose. Through the efforts of the American Zinc Institute and the individual shingle manufacturers the public is being educated to the benefits of using zinc for roofs.

The meetings of the American Zinc Institute have been exceedingly valuable in opening discussion as to methods of stimulating zinc consumption, and have brought about a unity of effort that could not have existed without some common meeting ground for a collective consideration of zinc's problems. The institute is now working upon a "Zinc Workers' Handbook," which will describe the proper application of the metal to roofing and supply data to architects and builders that will enlighten them as to the advantages and proper application of zinc roofs. It is an adaptation of a volume published by the Vielle Montagne Company in Belgium. Communications are constantly coming to the secretary requesting information about the advisability of constructing a zinc roof under certain conditions and requesting sources of additional information, which seems to indicate the great public interest in the work.

The zinc industry is not content with merely pushing into the roofing channel, and has its ear trained to catch any other sounds that would help consumption. Its research work has not reached a stage that can be called perfect, but the industry is not asleep, and the spirit shown in its work since the organization of the institute argues well for an intensive investigation of the market for zinc. The slogan "Make It of Zinc" needs substantial support to make it effective. No one will make it of zinc unless shown that it is to his particular advantage—that it means dollars and cents to him. The awakening of the zinc trade of the United

States, with its compact association, is an assurance that this support will be forthcoming. In fact, the collective advertising of zinc products has been under consideration for many months.

Standardization Work Aided.

It is important in dealing with any commodity to know exactly what each trade term signifies. This is no less true of zinc ore and its products than of any other material, so that the American Zinc Institute is now engaged in the standardization of trade terms and has a committee to assist in the international standardization of zinc ore, slab zinc, and sheet zinc specifications. This work was initiated by the Belgian Standardization Association and is being aided by the American Society for Testing Materials and the American Engineering Standards Committee.

Although the American Zinc Institute is a business organization, and must stand or fall as such, many discussions that have been quite technical have occurred at its meetings and been recorded in its reports. It is entirely natural that this should be so; in fact, I look to an expansion of this activity of the Institute, for when practically all the units of an industry are gathered in one organization its meetings are ideal occasions at which to discuss technical matters of concern to that particular industry.

In any industrial organization success depends upon the guidance by its officers. The American Zinc Institute was fortunate in having for its presidents two men, Charles T. Orr and E. H. Wolff, whose ability and whole-hearted wish to further the interests of the American zinc industry have helped greatly in the formative years of the Institute.

The outstanding feature of the American Zinc Institute's activities is the fact it has been able to accomplish so many useful and valuable changes in the industry. It has set a hot pace for itself, and if that pace is kept up no one should be amazed to see further marked changes. Much remains to be done

—which no one knows better than the American Zinc Institute—but with the progressive attitude of its officers, and the support that has been given them, other fields will doubtless be conquered.

Metal Branch of Nat'l Hardware Association Will Meet May 25 and 26 in Cleveland, Ohio.

Members of the Metal Branch of the National Hardware Association at the direction of Chairman W. H. Donlevy, are receiving an announcement that the twelfth annual meeting will be held at the Hotel Cleveland, Cleveland, Ohio, Friday and Saturday, May 25-26. A program is being arranged and will be issued from the office of the Secretary, George A. Fernley, 505 Arch Street, Philadelphia, Pennsylvania, as soon as completed.

Zinc Stock Decreased 843 Tons in March.

The American Zinc Institute statistics for March show that the production of slab zinc during that month was 48,731 tons, and the shipments 49,574 tons, so that the stocks in smelters' hand were reduced during March 843 tons, being 10,021 tons on March 31st.

Of the amount shipped, 3,092 tons were for export, 46,482 tons for domestic consumption.

The report for March follows:

(Zinc, all grades, tons of 2,000 pounds.)

Stock on hand March 1, 1923. 10,864
Produced March, 1923. 48,731

Total 59,595
Shipped March, 1923. 49,574

Stock on hand March 31,

1923 10,021
Amount shipped from plants

for export during March.. 3,092

Amount stored for account

of customers March 31st none

Number of retorts operating

March 31st 89,054

The number of retorts operating at the end of March is an increase of 2,123 as compared with the previous month.

The production and deliveries by months since January 1, 1922, are shown in the following table, together with the stocks at smelters at the end of each month, the figures indicating tons of 2,000 pounds:

Stock on hand December 31,	1921	66,608
1922.	Production	Deliveries	Stocks*
January	23,706	24,636	65,678
February	22,513	24,067	64,124
March	26,532	30,394	60,262
April	25,506	34,040	51,728
May	27,419	38,738	40,409
June	28,547	39,380	29,576
July	31,917	32,875	28,618
August	31,423	38,412	21,629
September	33,134	35,957	18,806
October	39,940	40,703	18,043
November	40,200	38,746	19,497
December	42,841	44,086	18,252
Total	373,678	422,034	48,356
1923—			
January	46,317	47,995	16,574
February	42,443	48,153	10,864
March	48,731	49,574	10,021

* At the end of month.

Copper Research Association to Determine "Fatigue" Point of Copper, Brass, Bronze, etc.

To determine how long it takes to "tire" a metal to the point where it gives way under repeated strains or shocks the Engineering Foundation, in collaboration with the National Research Council, the Copper and Brass Research Association, the University of Illinois, the General Electric Company, Western Electric Company and other corporations, has undertaken a comprehensive program of research to establish the endurance limits or so-called "fatigue" of copper, brass, bronze, and other metals.

It is planned to carry forward for the first time a comprehensive research into the endurance limits of copper, brass, bronze and other non-ferrous metals and alloys.

The Copper and Brass Research Association will be represented in this undertaking by Captain Harry George, Metallurgist, Chase Metal Works; W. R. Webster, Vice-President, Bridgeport Brass Company, and William B. Price, Chief Chemist and Metallurgist of the Scovill Manufacturing Company.

The work will be supervised by an advisory committee of specialists connected with the National Re-

search Council. Dr. H. F. Moore, Professor of Engineering Materials, Materials Testing Laboratory of the University of Illinois, will be in immediate charge of the experiments, which will be conducted at Urbana, Ill. The Engineering Foundation, of which Alfred D. Flinn is director, has provided special equipment and funds, and is cooperating in other ways in this investigation which concerns everyone, especially those having to do with high speed machines, whether in power plants or factories, in aeroplanes or automobiles.

St. Louis Arrangement Committee Nat'l Sheet Metal Contractors' Convention Meets.

TO AMERICAN ARTISAN:

The St. Louis committee of arrangements for the National Sheet Metal Contractors' convention met April 30th, 8:00 p. m., at Hotel Statler, this being the first meeting at which the ladies were present. We had a 100 per cent attendance.

The ladies were organized into a committee and elected their officers as follows:

President—Mrs. William Koelsch.

Secretary and Treasurer—Mrs. Frank T. Bokern.

At 9:00 p. m. a recess was taken to partake of refreshments, consisting of ice cream and cake (soft stuff), after which we went to our labors, adjourning at 11:45 p. m.

The ladies will hold their next meeting at the home of Mrs. William Koelsch. The gentlemen will meet at the Statler hotel as usual on each Monday night.

Everything is progressing nicely and all arrangements are practically completed for the largest convention ever held; so if you do not attend this, the nineteenth annual convention of the National Association of Sheet Metal Contractors, you are going to miss something. Do not hesitate to bring the ladies and children—all will be taken care of in St. Louis style. All arrangements are made for the pleasure and comfort of everyone attending, so it is up to you to ask for what you want

and you will get it, no matter what it is; this means the gentlemen as well as the ladies.

Do not forget the dates: June 25 to 29, inclusive.

St. Louis, Missouri—the city surrounded by the United States.

Respectfully,

THE PUBLICITY COMMITTEE.

High Court Declares Exclusive Labor Contract Invalid.

The Supreme Court of Colorado has declared that a contract between employers and a labor union, in which the employer agrees to hire only members of the labor union, and these to work for only members of the employers' association, violates the anti-trust laws of that state.

In 1916, the Master Plumbers of Colorado Springs and the Plumbers' and Gas Fitters' Union entered into a very interesting contract, which provided:

The members of Local Union Number 58 agree to work in the city of Colorado Springs and vicinity for none but members in good standing with the Colorado Springs Master Plumbers' Association.

Not more than two members in a firm will be allowed to work with tools. No two members of a firm will be allowed to work with tools on any job at the same time.

The signers of this contract were convicted of violation of the Colorado anti-trust law.

The court held that the contract was bad because it put all non-members of the Master Plumbers' Association at a disadvantage. It aimed at a control of the plumbing business in Colorado Springs. It also attempted restriction of competition in that it did not permit more than one member of a firm to use tools, or work on the same job.

Lack of Tact "Kills" Many a Good Customer.

Tact in business is as necessary as truth. One dissatisfied customer can undo all the good of years of careful storekeeping. There was a woman who stayed away from the

best retail store in a town of twenty thousand for twelve years because the proprietor said something reflecting on her judgment. It was about an item of little intrinsic value. The proprietor was probably right. But that made no difference. She had a home for which she bought supplies of all kind from some other store for those entire twelve years. The profit ought to have gone to the man whose customer she had been. But it didn't.

Notes and Queries

Boat Patterns.

From A. G. Shelby, Box 813, Grandview, Washington.

Please tell me where I can buy patterns for small fishing boats.

Ans.—H. F. Thompson Boat and Pattern Works, Decorah, Iowa.

Radiator Shields.

From Sam S. Pearson's Sons, 217 Madison Street, Ottawa, Illinois.

We should like to know who makes radiator shields.

Ans.—Tuttle and Bailey Manufacturing Company, 1125 West 37th Street, Chicago, Illinois; Hall-Neal Furnace Company, 1853 Ludlow Avenue, Indianapolis, Indiana; The Thomas and Armstrong Company, London, Ohio, and Fred J. Meyers Manufacturing Company, Hamilton, Ohio.

"Revonoc" Oil Stove.

From Churubusco Tin and Cornice Works, 9 South Main Street, Churubusco, Indiana.

Kindly inform us who makes the "Revonoc" oil stove.

Ans.—It is now known as the "Hibbard," and is made by Hibbard, Spencer, Bartlett and Company, State Street Bridge, Chicago, Illinois.

Rolling Step Ladders.

From A. E. Browder, Albion, Nebraska.

Please advise me who makes rolling step ladders.

Ans.—Richards-Wilcox Manufacturing Company, Aurora, Illinois.

Address of Richmond Stove Company.

From Stove Dealers' Supply Company, 310 Chestnut Street, Milwaukee, Wisconsin.

Where is the Richmond Stove Company located?

Ans.—Richmond, Virginia.

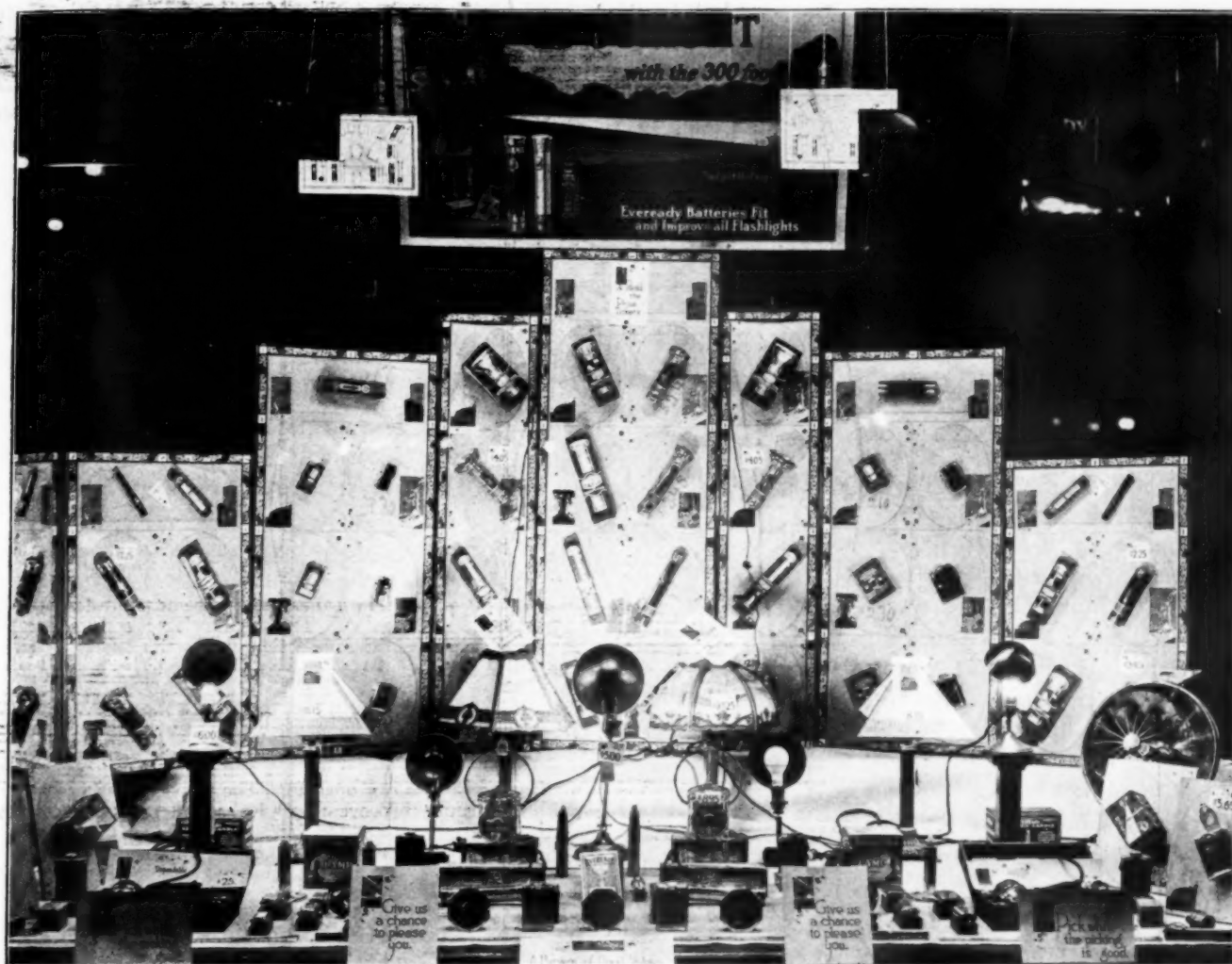
Alex. Baillie Makes Attractive Flashlight Window Display Which Merits Exceptional Credit; Batteries also Featured.

Veritable "Solis Occassu" Arranged in Window of Sumner Company, Ltd., Moncton, N. B.

DID you ever alight from a street car at the end of the line on one of those inky-black nights when the all outdoors was so dark that you couldn't even see your hand in front of your eyes, when the road was swimming with puddles of

of seeing a sign in the window of, say, the Sumner Company, Ltd., Moncton, N. B., that carried an invitation to "give us a chance to please you," together with a wonderful display of flashlights of all kinds, did you not?

best way he knew how, and that was through the window display; that is, he told you what they were, how they were made, who carried them, and above all, he told you what they cost, all because he wanted to be of service. Then, as if that was not



Attractive Window Display of Flashlights Arranged for Sumner Company, Ltd., Moncton, N. B., by Alex Baillie.

water and you had a long distance to walk before reaching home? Of course you have, most everyone has had that experience.

Well, be honest with us now. What was the first thought that entered your mind? You would have given almost anything for a flashlight on a night like that, wouldn't you? You had a vivid impression

Well, that is exactly what Alex Baillie intended you should think when he arranged this window display for the aforesaid firm, because he had had the same experience himself, and being a thoughtful and considerate person and wanting to save you the displeasure he had by forewarning you, he told you about Eveready flashlights in the

enough, he showed you how you could be warm and comfortable in your library or study.

The background of the display was furnished by Sel-plus Service. The entire display is excellently arranged and it is in reality a "veritable harvest of good values." The inference in the pick while the picking is good is also well taken.

At the bottom of the display are shown some reading lamps and a heater. The floor was elevated and the steps were covered with white

crepe paper. Above and on either side of the display is placed a sign advertising the Unit cell flashlight batteries.

Hardware Club of Chicago and President Martin Celebrate Anniversary with Fine Dinner.

*Menu Was Fine Meal Excellently Cooked and Served,
Oratory Witty, Musical Program of Unusual High Order.*

WEDNESDAY, May 2nd, the combined Annual Dinner and Birthday Party of the Hardware Club of Chicago and President A. Vere Martin took place in the pleasant quarters of the Club in the State-Lake Building.

It is perfectly safe and in full accordance with all facts to state that everybody present had a good time, from Harry Libe who danced and looked as if it was the most important job he had ever undertaken, to "Uncle Josh" Billings who beat Ye Scribe two games of pool with the help of Bill Kennedy, Allan J. Coleman and his good wife and a few other advisers.

Needless, of course, it is to remark that the dinner was up to the high standard set by the chief lady of the efficient cuisine department. We sure do get fine meals up there in the Hardware Club, and some of those fellows who are fretting about "where to eat and get something fit to eat" ought to make a visit some noon or evening to the pleasant dining room of the Club—their worries would be ended right then and there.

And the flow of oratory—certainly no need to go outside of the Club roster for speechmakers. Harry Squibbs, Mrs. George Beaudin, Arthur Lussky, Bill Kennedy, Harry Libe, Harry MacRae, "Judge" Grosscup and others of more or less ability as story tellers, were all on deck—and all of them were so evidently expert as impromptu speakers that it is almost a wonder they are not invited to big dinners or luncheons everyday.

The burden of all the talks was, of course, the love and esteem in which President Martin is held and

if you did not know him you might think the praise would go to his head, but through it all and after the speechmaking was over he was just the same good fellow looking to see that everybody enjoyed himself.

On behalf of the "Oldtimers," Vice-president William Kennedy (using the title one must be more dignified) presented Mr. Martin with a box containing neckties and handkerchiefs to last him until May 2, 1924, when another presentation will no doubt be made. It is nice to be a president and to have a birthday on the anniversary of a club.

One of the other pleasant features of the evening was the singing by Ambrose Wynick, a tenor with an unusual range and adaptability—from Italian love lyrics to Harry Lauder's songs. His rendition of Tennyson's poem, "The Light Brigade," was particularly appreciated, showing as it did the singer's dramatic ability. One could almost hear the thundering of the cannons and the shrieks of the dying horses.

It is to be hoped that many other similar affairs may be arranged by the Hardware Club. Those present at this birthday dinner certainly enjoyed themselves.

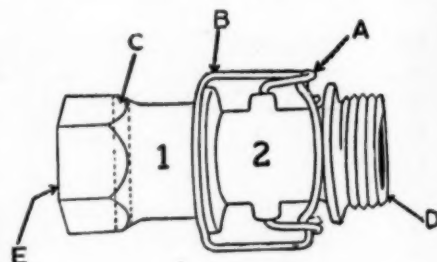
H. E. Hessler Company Distributes Lock-Proof Hose Connection.

Perhaps everyone from a child to an adult has had the unpleasant experience of getting all "splashed" while attempting to connect the garden hose to the water supply tap at the side of the house.

The Hessler Perfect Hose Connection, distributed solely by the

H. E. Hessler Company, Syracuse, New York, was designed primarily to do away with all splashing and wasting of water. It does more than this, however, as with it there are no lost gaskets, no kinks in the hose; it saves time; it saves temper.

The device, as shown in the illustration, is made in two parts, one half being screwed into the end of the hose and the other fastened to the water supply pipe. The male end fits into the female end snugly, so that no water can leak past the flanges; these two pieces are held



together firmly by means of a strong spring. When it is desired to connect the garden hose with the water supply, it is only necessary to put these two pieces together, snap the spring closed and turn on the water. The device is strongly and well made.

The following explanatory note tells how to operate the device:

To separate the two parts simply lift up on the spring wire at point designated as A. This will release spring B and the connection will come apart. Attach part No. 2 at D to your hose, and part No. 1 at E to your faucet or hydrant. Insert part No. 2 into part No. 1 and close spring B down over the flange on part No. 1. Lock spring by forcing down wire A and the connection is ready to operate. The rubber washer which prevents all leaks and gives the correct compression is contained in a recessed channel at point C. This washer can be easily replaced, but the necessity for its replacement will be infrequent, due to the slight amount of wear on the washer. If you desire to attach two lengths of hose together you will find the Perfect Hose Connection easily adaptable for this purpose.

Who Makes "Pacemaker" Electric Iron?

TO AMERICAN ARTISAN AND HARDWARE RECORD:

Can you tell us who manufactures the "Pacemaker" electric iron?

Yours truly,

STOFFEL BROTHERS, HARDWARE.
—, Illinois, April 25, 1923.

Groff, New York, Encourages Timely Kitchen Utensil Window Display.

Advocates Linking Sales of Enameled Ware at Spring Housecleaning Time.

Heralding the advent of spring, Alden D. Groff, service department Associated Manufacturers of Enameled Ware, 46 Cedar Street, New York, suggests timely and practical methods of featuring kitchen utensils for the spring season.

Why is it that when the house is being overhauled from cellar to garret and from garden to closet, the kitchen is so often overlooked? Because too many housefurnishings departments have missed the logical tie-up of spring cleaning and the renewing of kitchen utensils.

When old things are being retired from service—in many homes even the furniture is changed—it is logically the right time to encourage women to buy new things for the kitchen. When sprucing and painting is in full swing, what could be more appropriate than a drive to brighten up the kitchen with new enameled ware, pots and pans?

There are other good reasons why enameled ware sales should bloom in the spring, and on each of these reasons can be based a selling campaign. Did you ever stop to consider that with the beginning of spring in the average kitchen the kind of cooking is almost entirely changed?

New cooking means new enameled ware. The utensils which become particularly popular in the spring are sauce pans, preserving kettles, double boilers, colanders, ladles, funnels, spoons and similar seasonable pieces. Many women put up rhubarb and strawberries; in fact, there is a splendid opportunity for extending the preserving season backwards in this way and increasing the period of preserving utensil sales. Stews with a large quantity of vegetables are popular, and large size pots and kettles for these are in order. Puddings of the lighter sort bring the double boiler into frequent action. For those housewives who

serve much fish during the Lenten season, enameled ware is particularly attractive, because enameled ware is so easily cleaned and its impervious surface retains no smell.

As the shrewd housefurnishing men have discovered, the best way to sell enameled ware is to "sell" women the appetizing food which can be cooked in it. Spring is an ideal season for working out this idea into sales. Windows, counters,

card" advertising him. Use whatever happens to be plentiful in your town at the time; namely, strawberries, cucumbers, rhubarb, asparagus, lettuce, onions, radishes, spinach, cress, beets, new potatoes. Some suggestions for window cards are: "Spring Is Here!" "New Vegetables and New Enameled Ware!" "Ah! Strawberries! Preserve Them In Enameled Ware!" "Cook Fish In Enameled Ware, Easy to Clean."

Cooking contests have been found very successful if properly managed and can be carried off with very little work. Offer prizes for the best jar of strawberry preserves and put the winning jars in the window. Offer prizes for the best strawberry



display advertising, circulars, salespeople's talk.

Put flowers in wherever possible, even if they are only artificial. A good display is one which combines the utensils with the things to cook in them. An attractive window, easily prepared, simply shows rows of utensils, interspersed with an assortment of fruits and vegetables in season. If you don't want to buy some, your neighbor who keeps the fruit and vegetable store on the same street will be glad to let you display some bunches and baskets of his goods if you show a little "courtesy

shortcake or the best recipes for using any of the new spring vegetables. Enameled ware utensils make good prizes.

Another good way of interesting the housewives—and the children, too—is a "Spring Poem Contest," in which verses are to be submitted, bringing in spring cleaning, new cooking utensils and the name of the store. Such a contest will make good newspaper stories, and the poems can be used as window cards.

Spring selling of cooking utensils is especially adapted to "combinations" or "sets" of utensils. A sim-

ple "Spring Preserving Outfit," consisting of enameled ware preserving kettle, colander and funnel, makes a very effective combination for special pricing. A "Strawberry and Cream" set," consisting of an enameled ware colander for washing the berries, a huller and a small enameled ware pitcher for the cream, is also a good idea; the name alone has a strong selling appeal because it is so appetizing.

To make use of the tie-up with your spring "Clean-up and Spruce-up" campaign a fine window can be made, displaying on one side all the cleaning utensils and supplies, such as mops, brushes, pails, paints, varnishes, cleaning fluids, powders, disinfectants, carpet sweepers, vacuum cleaners, etc., as well as the lawn-mower, hose and seeds and other garden supplies. On the other side of the window show a display of enameled ware cooking utensils arranged on shelves or tiers. Signs like "Spring Cleaning! Remember that Enameled Ware is Easy to Clean;" "Spring Cleaning Means the Kitchen, Too," and "Brighten Your Kitchen with New Enameled Ware" make the tie-up complete and tell your selling story.

Harry S. Collinson Advertises His Gun Business by Playing Hunter's Game.

When the first day of the hunting season opened last fall, Harry S. Collinson of the Hamilton-Collinson Hardware Company, Arkansas City, Kansas, tried out a new advertising scheme—one that was new to him at least.

Loaded with guns and shells, he set out for the choice hunting grounds and at night came back with many ducks and prairie chickens. These he piled in front of the store, and they set all of the hunters' blood to boiling. Mr. Collinson said that it was the best piece of advertising he has ever put over, and the firm has more than doubled its sale of guns and ammunition over any other previous goods.

Try to beat yesterday's record today.

Coming Conventions

The Western Central Association, Richmond, Virginia, May 7, 1923. Allen W. Williams, Secretary, 52 West Gay Street, Columbus, Ohio.

The Stove Founders' National Defense Association, Richmond, Virginia, May 8, 1923. Robert S. Sloan, Secretary, Scranton, Pennsylvania.

The National Association of Stove Manufacturers, Richmond, Virginia, May 8, 1923. Robert S. Wood, Secretary, Troy, New York.

Hardware Association of the Carolinas, Columbia, South Carolina, May 8, 9, 10 and 11, 1923. T. W. Dixon, Secretary-Treasurer, Charlotte, North Carolina.

Arkansas Retail Hardware Association, Marion Hotel, Little Rock, Arkansas, May, 1923. L. P. Biggs, Secretary, 815-816 Southern Trust Building, Little Rock, Arkansas.

Arkansas Retail Hardware Association, Marion Hotel, Little Rock, Arkansas, May, 1923. L. P. Biggs, Secretary, 815-816 Southern Trust Building, Little Rock, Arkansas.

Panhandle Hardware and Implement Association, Amarillo, Texas, May 14 and 15, 1923. C. L. Thompson, Secretary and Treasurer, Canyon, Texas.

Southeastern Retail Hardware and Implement Association, covering Tennessee, Alabama, Georgia and Florida, Auditorium Armory, Atlanta, Georgia, May 15, 16, 17 and 18, 1923. Walter Harlan, Secretary-Treasurer, 701 Grand Theater Building, Atlanta, Georgia.

Metal Branch of National Hardware Association, Hotel Cleveland, Cleveland, Ohio, May 25 and 26. T. J. Fernley, 505 Arch Street, Philadelphia, Secretary.

National Retail Hardware Association and American Hardware Manufacturers' Association, Richmond, Virginia, June, 1923. Herbert P. Sheets, Retailers' Secretary-Treasurer, Argos, Indiana, and Frederick D. Mitchell, Secretary-Treasurer, Manufacturers, 1819 Broadway, New York City.

Texas Association of Sheet Metal Contractors, Dallas, June 21 and 22. J. O. Walsh, 1216 Commerce Street, San Antonio, Secretary.

Missouri Sheet Metal Contractors' Association, Statler Hotel, St. Louis, Missouri, June 25, 1923. Otto E. Scheske, Secretary, 3818 Maffitt Avenue, St. Louis, Missouri.

The National Association of Sheet Metal Contractors, St. Louis, Missouri, June 25 to 29, 1923. E. B. Langenberg, Secretary of St. Louis Convention Committee, 4057 Forest Park Boulevard, St. Louis Missouri; E. L. Seabrook, 608 Chestnut Street, Philadelphia, Secretary.

Sheet Metal Contractors' Association of Pennsylvania, Hotel Allen, Allentown, Pennsylvania, July 26 and 27, 1923. W. F. Angermyer, Secretary, 714 Homewood Avenue, Pittsburgh, Pennsylvania.

Retail Hardware Doings

Florida.

Stewart Lane has purchased the interests of R. M. Hall in the Hall Hardware Company at 457 Central Avenue, St. Petersburg.

Illinois.

Charles L. Hammond, formerly manager of the Mason Hardware Company of Canton, has opened up a new hardware store in the Piasse Building, corner East Elm Street and Second Avenue, Canton.

Arthur Drager has rented the Will Blawe Building at Monroe Center, where he will open a hardware store.

A deal has been closed whereby Henry Wittman became the owner of the Quante Hardware Store at Metropolis.

Indiana.

Perry Misner has opened a hardware business at 960 South East Street, Indianapolis.

R. E. McBeth has opened a hardware store at 820 North Alabama Street, Indianapolis.

W. A. Moore of Indianapolis is erecting a new building at 8 and 10 North Beville Avenue for his hardware business.

Iowa.

S. S. Troutman has purchased the J. C. Short and Son Hardware Store at Bonaparte.

At Fairfield, M. D. Rodabaugh has become the owner of the Gaines Brothers hardware business.

Kansas.

The Trotter Hardware and Furniture Company at Baldwin has been sold to J. W. Minnis.

E. W. Lincoln has opened a hardware store at Friend.

Michigan.

L. E. Doty has sold his hardware business at Athens to Albert Correll.

At Battle Creek, L. W. Ehle has opened a hardware store.

Joseph Bower has sold his hardware and implement store at Fowler to Fox Brothers.

Alfred Isaacson has opened a hardware store at Republic.

Minnesota.

John Olberding has sold his hardware stock at Melrose to Nick Kraemer of the Kraemer Hardware Company.

A. W. Gaumnitz has become associated with R. L. Cramb in the Milaca Hardware Company at Milaca.

Nebraska.

At Eagle, Paul Judkins has disposed of his hardware business to John Quinn and Ernest Trumble.

The hardware stock of James Wolfe at Fullerton has been sold to A. B. Blintz of Genoa.

New York.

John Henrich has opened a hardware store in the O'Connor Building at Lackawanna.

North Dakota.

J. Sauerssig has opened a hardware store at Martin.

Anton Knutson and Ole Teigen have purchased the hardware business at Edmore formerly conducted by Berg and Stendal.

South Dakota.

The Tolstoy Hardware Company of Tolstoy has been incorporated with a capital of \$25,000.

Wisconsin.

After fourteen years in business, O. W. Soderstrom has sold his hardware store in Ogema to G. V. Anderson and L. G. Kuzenski of Stetsonville. The store will be known as the Ogema Hardware Company.

Robert H. Stockton, Prominent Stove Manufacturer in St. Louis, Passes Away.

Helped to Found Two of St. Louis' Greatest Enterprises in Their Respective Fields; Associate at One Time with E. C. Simmons.

ONE of the oldest and most prominent men in the range manufacturing business has passed away after a life rich in experience, full of great deeds and replete with acts of kindness—Robert H. Stockton, President of the Majestic Manufacturing Company, St. Louis, died on Friday, April 27th, at the age of 81 years.

His death marks the passing of an old resident and pioneer business man of St. Louis, whose activities in commercial life helped to make two great corporations—the Simmons Hardware Company and the stove manufacturing concern of which he was president.

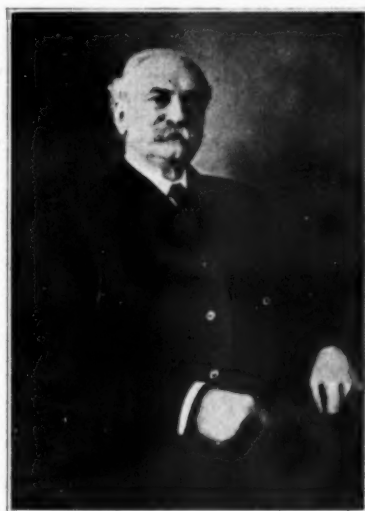
He was born in 1842 at Mount Sterling, Kentucky, and came to Missouri in 1857, working for a time in Columbia. He joined the Confederate army at the outbreak of the Civil War and served as lieutenant under General Sterling Price.

Mr. Stockton began his business career in St. Louis in 1865. After working two years as a clerk in the hardware store of Pratt, Fox & Company, he entered the employ of Waters, Simmons & Company. In the second year of his service with this firm the business was incorporated under the name of the Simmons Hardware Company, and young Stockton became secretary of the new firm and later was chosen second vice-president. He held this position until 1888 and was active throughout the period of great expansion the enterprise enjoyed, resigning because of a nervous breakdown.

Four years later, while traveling in California, Mr. Stockton met L. L. Culver, St. Louis stove manufacturer. Culver believed he had a new idea in the manufacture of stoves and ranges, but he needed a sales organization. His idea was the use of malleable iron in stove construction.

The two went into partnership. The former hardware merchant conceived the idea of eliminating the manufacturers' jobber from his selling scheme. He trained a force of salesmen to work directly with the retail merchant. The idea caught from the start and Majestic ranges became known everywhere.

When Mr. Culver died in 1899, Mr. Stockton became President and



Robert H. Stockton.

General Manager of the Majestic Manufacturing Company.

He married Miss Bettie Mae Warder, of Richmond, Missouri, in 1867. She died in 1904. Their only child died at the age of 19 months.

The accident which indirectly contributed to his death occurred in 1920 at the home of Mrs. L. L. Culver, widow of his late partner. He stumbled over a footstool and fell heavily, fracturing and dislocating his left hip. Owing to his advanced years, the injury did not mend and he was confined to his home. He is survived by a sister, Mrs. M. S. Cotton, of Sedalia.

Under his will, which was filed early this week, virtually the entire \$2,000,000 estate, except for minor bequests to servants in his home, will go to educational, charitable and religious purposes.

The Stockton-Culver College at Canton, Missouri, is to receive two-fifths of the estate; one-fifth goes to the Christian Orphans' Home, 2951 North Euclid avenue; one-fifth to the Christian Church, and one-fifth for ministerial relief in the Christian Church.

As a memorial to his wife, he contributed the funds to build the Hamilton Avenue Christian Church, which he attended, and with Mrs. L. L. Culver he built the parsonage of the church. He also gave a large sum toward building the Kingshighway Christian Church and contributed the money required to build the parsonage.

The Stockton-Culver College also received large sums from him. It was formerly the Christian University, but was renamed in honor of Stockton and Mrs. Culver because of their gifts to the school. The Christian College at Columbia, Missouri, was likewise indebted to his generosity.

The Christian Orphans' Home was carefully fostered by him. To it he gave several large sums, just recently contributing \$150,000 to its maintenance. The Blind Girls' Home received donations from Mr. Stockton, as did Father Dunne's Newsboys' Home. His name was also in the list of donors to the Children's Hospital, and he supported many of the activities of the Christian Church outside of St. Louis. His friends say he also gave large sums unostentatiously to needy individuals.

Besides being a director of the Mississippi Valley Trust Company, he was a member of the Executive Committee of the Board. At one time he was on the directorate of the National Bank of Commerce. He was a member of the corporation of Washington University and a director of the Missouri Historical Society. Mr. Stockton was also a director of the Louisiana Purchase Exposition Company and chairman of its Publicity Committee. He was president of the Commercial Club for a year and was a member of the Confederate Veterans' Association.

Fremont Stove Company Is Under New Management in Operating and Sales Departments.

On January 1, 1923, there was a big change in The Fremont Stove Company. T. H. Conway, of the Regent Stove Company, Detroit, Michigan, was formerly Vice-President and General Manager, but at his withdrawal from the concern, and resignation as General Manager, A. R. Christy was elected President and General Manager to succeed Mr. Conway.

H. B. Reppetto, formerly with the Wheeling Steel Corporation, and for a number of years President and General Manager of the Wheeling Stove and Range Company, has been appointed Director of Sales. Considering the many years of experience that Mr. Christy has had in the operating end, there should be no question as to the quality and the volume of stoves turned out by The Fremont Stove Company.

In a letter to AMERICAN ARTISAN, Mr. Reppetto states that The Fremont Stove Company, which, by the way, has no connection whatsoever with the old Lincoln Stove Company, has just completed the printing of their first catalogue, which features cast iron coal and combination ranges, oak heaters, radiant gas heaters, hot plates and laundry stoves. The illustrations and descriptions indicate that their various lines should be good sellers at popular prices.

Cooks Full Meal on Range While it Froze Solidly to the Sidewalk.

Once in a while a stove merchant is bound to meet a housewife who thinks of every possible circumstance in connection with the work of a kitchen range. For instance, some dealers have been asked by skeptical housewives, "What happens if I leave the outside door to the kitchen open and the wind comes in? Won't that affect the stove's efficiency?"

Maybe a number of stove merchants would be hard put to answer

this question to the complete satisfaction of the prospect. However, the wide-awake firm of J. F. Schulze and Son, Angola, New York, placed a Lorain-equipped gas range in front of their store, attached it to gas connection via a rubber tubing, and did a fine bit of baking—on a windy day!

Needless to say the bakery product was exactly as fine as if baked in the snug interior of a kitchen untouched by gusts of wind. Dealers can use this article to put to rout any or all "doubting Thomases."

Another stove merchant put a Lorain-controlled range out of doors on a winter's day. It cooked a regulation five hour whole meal in the oven. The snow falling on the oven top melted and ran to the walk and turned to ice again. When the range was ready to be returned in the store it was frozen solidly to the walk. Yet the meal was done to perfection.

Keystone State Stove Salesmen to Hold Annual Outing at Evergreen Farms, June 16.

The annual outing of the Stove Salesmen's Association of Pennsylvania will be held Saturday, June 16, 1923, at a place located on Roosevelt Boulevard and Welsh Road, Philadelphia, Pennsylvania, known as Everygreen Farms.

Arrangements for conveying all guests to the farms by automobile have been made, but should this method be inconvenient to any one, the Farms can be reached by taking Frankford elevated trains.

Traveling Salesman Can and Does Help Merchant to Increase His Sales and Profits.

The alert salesman has opportunities to pick up a great many new, progressive ideas which customers who are closely confined to their business, or who do not have the time to go about much, are not likely to know about, and he can render them, as well as himself, a very great service by keeping them posted and up-to-date. Traveling

salesmen are in a sense traveling business teachers, and the man who takes a human, friendly interest in his customers, apart altogether from his personal interest, is the one who makes the most friends and gets the most orders. There is no one quality which will help a salesman so much as an obliging, kindly spirit, the unselfish desire to be helpful, to assist customers to keep abreast with their competitors in business.

Rome Stove & Range Company Contracts for Addition to Its Foundry.

The contract for a one-story addition, to cost about \$25,000, for the Rome Stove and Range Company, Rome, Georgia, of which A. F. Selman is Secretary, has been awarded to the Ingalls Iron Works, Birmingham.

Backbone Is First of All Necessary Ingredients of Good Salesmen.

When Charles Sumner was asked what was necessary to win success, his answer was: "First backbone, second backbone, third backbone." The salesman who hasn't backbone enough to stand up against opposition has mistaken his calling. He should be doing something else. What the business world wants is men who can trade with strong minds, who can stand up against dominating personalities. It wants men with backbone, men with poise, who can overcome opposition while maintaining a pleasant, agreeable manner. It has no use for the man without backbone, who wilts before a show of gruffness or opposition and says to his prospect, "I fear you don't want anything today, I will come in again later," or, "I will see you the next time I am in town." When you go out to sell things don't forget to take your backbone with you.

The struggle for good advertising isn't ended when you have produced one good advertisement. Go right at the next one.

Study Carefully the Possibilities of Your Hardware Business and Apply the Following Rule:

*Make Your Advertising More Gainful
with Specific and Seasonable Offerings.*

The Darby-King Hardware Company, Florence, Alabama, believes in taking advantage of the "Saturday special," as will be noted from the accompanying reprint from the Florence, Alabama, *News*.

In the replica shown there is no

of the store before the public. The telephone number conspicuously placed adds to the simplicity of making inquiries.

had additional pulling power had use been made of at least one or two small illustrations.

but, nevertheless they are willing to present themselves and be shown. After they are once in the store, it is up to you. Note the demonstration for Saturday. Purely educational, but with vast possibilities. It

SPECIALS

FOR SATURDAY

No. 10 Quart Galvanized Bucket	19c
No. 12 Quart Galvanized Bucket	23c
No. 1 Galvanized Tubs	59c
No. 2 Galvanized Tubs	69c
3-Oz. Bull Dog Clothes Pins	22c

See these **SPECIALS** in our show windows

FREE! Two **FREE!**
Fully Equipped Ford Cars. See us for
Particulars

Darby-King Hdw. Co.

Phone 91

Florence

chance left for doubt as to what is being offered for sale. Sizes and prices are distinctly stated.

In addition there is the appeal which ties the newspaper advertising up to the window display, a practice which has much to commend it.

The word "free" in bold-faced type, followed by an explanatory note in smaller type, not only attracts the eye to the advertisement, but brings prospective customers into the store, encourages telephone inquiries and finally places the name

The accompanying diminutive is a reproduction of advertising copy run by the Campbell Hardware Company in the Frankfort, Illinois, *American*. This is an excellent method of pushing a special sale. It has an appeal of unusual interest. The demonstration in itself is interesting and it is one of the best methods of working on a woman's curiosity. "A delicious pot roast prepared in the ——— kettle without water or grease." Most women would be apt to say: "I'm from Missouri, you've got to show me,"

Cooking Demonstration



And Special
Sale of
"Wear-Ever"

ALUMINUM

A factory trained expert will be at our store for one week, beginning Monday. Her program as outlined by the "WEAR-EVER" Household Research Dept., will include the following:

MONDAY: Griddle cakes, beautifully browned baked on the "WEAR-EVER" Griddle without grease, odor or smoke.

TUESDAY: A delicious pot roast prepared in the "WEAR-EVER" Windsor Kettle without water or grease.

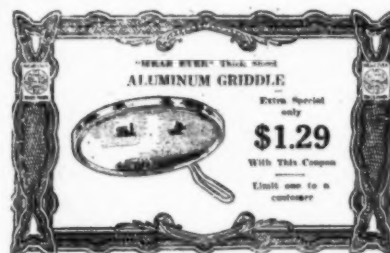
WEDNESDAY: A whole meal cooked in the "WEAR-EVER" Seamless Double Roaster on top of the stove on a single burner.

THURSDAY: Crisp, golden brown waffles baked on the "WEAR-EVER" greaseless waffle mold.

FRIDAY: Divinity fudge and peanut brittle made in "WEAR-EVER" Stew Pan without stirring or danger of burning.

SATURDAY: Demonstration of how to clean and care for Aluminum Utensils. How to obtain satisfactory results with Aluminum Fry Pans.

During this demonstration a number of "WEAR-EVER" Utensils are featured at reduced prices. We offer one item in particular each day at a very special price, as shown in the coupon below.



Campbell Hdw. Co.

appears that the advertisers in this case had taken advantage of the assistance tendered them by the aluminum ware manufacturers.

There is always room at the top, but it isn't so lonesome at the bottom.

Constructive Factors Still Dominate Market Outlook; Present Buying Lull Reflects Soundness.

Prices on Important Non-Ferrous Metals Continue to Decline—Demand for Copper Remained Light.

COPPER, which had maintained a firm price of 17 cents last week, declined to 16.75 cents the latter part of that week for Electrolytic delivered. Refiners were offering the metal at 16.50 cents for second quarter, while third quarter could be bought for 16 $\frac{3}{8}$ cents. Small lots of Lake copper were selling at 16.75 cents delivered, while casting was weak at 16.25 cents refinery.

On April 30 there was a further depression in the copper market, when Electrolytic sold at 16 $\frac{5}{8}$ cents delivered over the next few months. Little business was transacted and prices continued to decline on small sales.

Inquiries for May 1 resulted in little business. Electrolytic was offered by producers at 16.62 $\frac{1}{2}$ cents delivered.

The manufacturers of finished products have been reluctant to make concessions in prices.

On May 2 Lake copper was available at 16 $\frac{3}{8}$ cents delivered, while casting copper was down to 16 $\frac{1}{8}$ cents refinery, but the demand for this was nil.

Chicago Warehouses maintains a base price of 24 $\frac{1}{4}$ cents on copper sheets.

Tin.

Selling pressure on April 29 routed the rally in tin that was in progress at the beginning of the week, after Straits touched 45 $\frac{1}{2}$ cents and after several more days of declining another rally was staged towards the close. The net change was a gain of $\frac{5}{8}$ cent over the close of the week previous. The earlier deliveries and positions of Straits and Straits shipments closed at 44 $\frac{1}{2}$ cents, while the later months commanded premiums ranging from $\frac{1}{8}$ to $\frac{3}{8}$ of a cent.

On April 30 Straits showed a

gain of a quarter of a cent, and the early deliveries and positions of Straits and Straits shipments closed at 44 $\frac{3}{4}$ cents a pound, while the later months commanded premiums ranging from an eighth to a half cent.

Straits was being sold on May 1 at 44 $\frac{1}{2}$ cents for prompt and May deliveries, although at the same time local dealers were bidding 44.62 $\frac{1}{2}$ to 44.75 cents. However, the prices in this market have moved up about $\frac{1}{2}$ cent. There were sellers of prompt Straits at 45.12 $\frac{1}{2}$ cents futures are variously quoted at 45.37 $\frac{1}{2}$ cents to 45.50 cents. Dealers have paid 45.37 $\frac{1}{2}$ cents and 45.40 cents for July delivery and 45.75 cents for July delivery and 45 $\frac{3}{4}$ cents for August and September.

The visible supply of tin fell off 2,506 tons during and totaled 22,116 at the close of the month. April supplies totaled 7,453 tons, as against 9,060 tons the month previous; deliveries were 9,959 tons, as against 9,595 tons in March. Stocks at the close of the month amounted to 10,373 tons, as compared with 11,385 tons a month earlier.

Chicago Warehouse prices on tin are: Pig tin, 46 $\frac{5}{8}$ cents, and bar tin, 47 $\frac{5}{8}$ cents.

Lead.

The lead market was firm all week at 8 cents, New York spot, with futures gradually weakening.

Conditions were unchanged and buying continued on a hand-to-mouth basis. Producers, however, show an evident desire for conservative price levels.

Zinc.

Producers were less disposed to press for orders on April 30 and the market was about 5 points above last week's closing, but there was little definite buying interest reported. Sellers and buyers were

maintaining a waiting attitude.

On May 1 producers offered May shipment prime western at 6.80 cents, June at 6.75 cents, July at 6.70 cents, East St. Louis basis. There was considerable speculation as to whether the decline had run its course.

Solder.

Chicago warehouse prices on solder are as follows: Warranted 50-50, \$28.75; Commercial 45-55, \$28.00, and Plumbers', \$27.50.

Wire and Nails.

Credence is given the rumor that prices of wire and wire nails will advance. Producers have not announced what the advance would be, but it is thought that wire will reach 2.85 cents or 2.90 cents and wire nails will go to 3.10 cents or 3.15 cents base Pittsburgh.

Wire producers continue to experience difficulty in forestalling their jobbers and customers to add to the tonnages they have coming to them or to place orders for fresh lots.

At Chicago efforts are being directed principally to reducing commitments, and new business is being taken carefully.

Bolts and Nuts.

In spite of the heavy contracting in Chicago for second quarter supplies of bolts and nuts, which seemed to have covered most users for that delivery, current spot lots continue to come out and supplement tonnages already on mill books. The result is that producers are busy and prices are being maintained strongly at the discounts announced some time ago.

Business in nuts, bolts and rivets at Pittsburgh is in good shape owing to the large amount of material on order books. Consumers who had contracts for the first quarter

bought all they could under those contracts and were well stocked up as they faced the second quarter.

Tin Plate.

Books of one large producer at Pittsburgh were opened last week for third quarter only, rather than for the usual six months' period.

In some quarters independent makers expected a \$5.75 price and still maintain that level or higher, namely, around \$6. The \$5.50 quotation is generally satisfactory and acceptable in view of the increased production costs with which makers are fixed.

Already tonnages for manufacture and shipment during the third quarter have been presented, but because bookings have been so heavy, these have had to be refused. They might be accepted now for shipment in the last three months of the year, but buyers want the tonnages prior to September 30, hence they are being peddled at an equal basis.

As indicated, however, independents still quote \$5.75 to \$6 and in some cases higher. Lots involving several hundred thousand base boxes already have been booked, with one or two larger tonnages from long-standing customers.

Sheets.

Sheets were selling at an advance in price on May 1 at Pittsburgh.

Fairly sizable specifications already have come in at the new prices, which as issued April 26 are \$7 to \$8 per ton higher than those prevailing since the announcement for the second quarter. The advance is \$7 on blue annealed, black and full-finished automobile sheets, and \$8 on galvanized.

Some producers are maintaining minimum prices of 3.25 cents on blue annealed, 4.00 cents on black, 5.25 cents to 5.50 cents on galvanized, and 5.50 cents to 7.00 cents on full-finished.

The leading producer reports that numerous contracts for third quarter tonnage already have been placed with it by customers requiring 1,000 to 5,000 tons at a time over the quarter. One for blue annealed received calls for 2,300 tons for small

bolted oil storage tanks, usually of 1,000 to 10,000-gallon capacity.

Galvanized sheet tonnage is heavy and could be much larger if the American company had room for all it is offered. These offerings are more extensive than usual, due to the fact that four or five independent makers have ceased manufacturing for the time being and others are operating on a low basis. Those galvanizing departments which are active only are able to operate 35 to 45 per cent of capacity, due to shortage of pickling labor.

Pig Iron Market Waits; Producers Not Anxious to Sell; Buyers See No Need for Active Buying.

Buying Light at Birmingham; Chicago Prices Unchanged; Pittsburgh Maintains \$31, Valley.

THE steel and automobile industries again established new high production records last month.

Several wage increases were announced. Another big railway system, the Burlington, issued a satisfactory annual report.

Several mill operations now average 93 per cent of capacity, a new high mark. The Steel Corporation is doing about 95½ and the independents about 90½ per cent.

Pig iron production last month was the largest both in gross tonnage and daily average in history. The output was 3,547,551 tons, or a daily rate of 118,252 tons. The previous record was in March, with a total output of 3,523,868 tons and a daily average of 113,673 tons.

The country is now producing pig iron at a yearly rate of no less than 44,000,000 tons, or more than 10 per cent in excess of the total in the record year of 1916. With the continued halt in new buying of pig iron and finished steel, the returns are significant as bearing on future relations of supply and demand.

The great backlog of tonnage built up in recent months is being drawn against by users as consumption continues at a high pitch. Increased cost of production, put at more than \$2.00 a ton, due to recent

Old Metals.

Wholesale quotations in the Chicago district, which should be considered as nominal, are as follows: Old steel axles, \$24.25 to \$24.75; old iron axles, \$28.00 to \$28.50; steel springs, \$24.50 to \$25.00; No. 1 wrought iron, \$19.50 to \$20.00; No. 1 cast, \$23.00 to \$23.50, all per net tons. Prices for non-ferrous metals are quoted as follows, per pounds: Light copper, 11 cents; light brass, 6½ cents; lead, 5½ cents; zinc, 4 cents; and cast aluminum, 16½ cents.

wage advances, is being taken up by higher-priced orders being billed. Heavy prospective demands by railroads continue to overhang the market. Despite some checks, building operations registered by new structural steel needs are heavy. Chicago reports they have passed all previous records.

Third quarter buying in pig iron is still deferred at Pittsburgh. It is thought, however, that by May 15 or June 1 a real buying movement for third quarter will set in. Producers of standard pig iron in that section are still asking \$31, valley, figure.

The Chicago pig iron prices are unchanged from those of last week. Sales are noted for 200 and 500-ton lots for May and June delivery. Selling for third quarter is on a small scale. Producers desire to delay selling, and buyers believe that there will be no immediate rise in prices and are, therefore, in no hurry to buy.

At Birmingham, Alabama, the lag in the markets indicates another period of activity close at hand. Very little iron is being sold here now, but contracts call for steady delivery. Quotations continue on a firm basis of \$27 for No. 2 foundry. Output has been increased by one new furnace being blown in.

Current Hardware and Metal Prices.

AMERICAN ARTISAN AND HARDWARE RECORD is the only publication containing Western Hardware and Metal prices corrected weekly.

METALS

PIG IRON.

Chicago Foundry..	31 00 to 32 50
Southern Fdy. No.	2
Lake Sup. Char-	coal
Malleable	31 00 to 32 50

FIRST QUALITY BRIGHT TIN PLATES.

	Per Box
IC 14x20 112 sheets	\$12 45
IX 14x20	14 05
IXX 14x20 56 sheets	17 57
IXXX 14x20	18 12
IXXXX 14x20	18 65
IC 20x28 112 sheets	28 30
IX 20x28	31 05
IXX 20x28 56 sheets	18 85
IXXX 20x28	17 95
IXXXX 20x28	19 00

TERNE PLATES.

	Per Box
IC 20x28, 40-lb. 112 sheets	\$25 00
IX 20x28, 40-lb. ..	27 60
IC 20x28, 30-lb. ..	21 25
IX 20x28, 30-lb. ..	23 85
IC 20x28, 25-lb. ..	20 10
IX 20x28, 25-lb. ..	22 70
IC 20x28, 20-lb. ..	17 35
IX 20x28, 20-lb. ..	19 60
IC 20x28, 15-lb. ..	15 35
IX 20x28, 15-lb. ..	14 10
IC 20x28, 8-lb. ..	12 60

COKE PLATES.

Cokes, 80 lbs., base, 20x28.	\$13 15
Cokes, 90 lbs., base, 20x28.	13 30
Cokes, 100 lbs., base, 20x28.	13 60
Cokes, 107 lbs., base, IC	14 00
Cokes, 135 lbs., base, IX	15 75
Cokes, 155 lbs., base, 56 sheets	8 75
Cokes, 175 lbs., base, 56 sheets	9 50
Cokes, 195 lbs., base, 56 sheets	10 30

BLUE ANNEALED SHEETS.

Base	per 100 lbs. \$4 00
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ONE PASS COLD ROLLED BLACK.

No. 13-20	per 100 lbs. \$5 00
No. 22-24	per 100 lbs. 4 85
No. 26	per 100 lbs. 4 30
No. 27	per 100 lbs. 4 95
No. 28	per 100 lbs. 5 00
No. 29	per 100 lbs. 5 10

GALVANIZED.

No. 16	per 100 lbs. \$5 60
No. 18-20	per 100 lbs. 5 75
No. 22-24	per 100 lbs. 5 90
No. 26	per 100 lbs. 5 95
No. 27	per 100 lbs. 6 20
No. 28	per 100 lbs. 6 35
No. 30	per 100 lbs. 6 85

BAR SOLDER.

Warranted.		
50-50per 100 lbs	28 75
Commercial.		
45-55per 100 lbs.	28 00
Plumbersper 100 lbs.	27 50

ZINC.

In Slabs	9 15
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SHEET ZINC.

Cask lots, stock, 100 lbs.	11 00
Less than cask lots, 100 lbs.	11 50

BRASS.

Sheets, base	21 1/2 c
Tubing, seamless, base	26 1/2 c
Tubing, brazed, base	29 1/2 c
Wire, base	22 c

COPPER.

Sheets, base	25 1/2 c
Tubing, seamless, base	27 1/2 c
Tubing, brazed, base	34 c
Wire, No. 9 & 10 B. & S. Ga.	22 1/2 c
Wire, No. 11 B. & S. Ga.	22 c

LEAD.

American Pig	7 75
Bar	8 75
Sheet.	
Full Coils	per 100 lbs. 11 85
Cut Coils	per 100 lbs. 12 60

TIN.

Pig Tin	46 1/2 c
Bar Tin	47 1/2 c

HARDWARE, SHEET METAL SUPPLIES, WARM AIR HEATER FITTINGS AND ACCESSORIES.

ADZES.

Coopers' Barton's	Net
White's	Net

AMMUNITION.

Shells, Loaded, Peters.	
Loaded with Black Powder	18%
Loaded with Smokeless Powder	18%

Winchester.	
Smokeless Repeater	
Grade	20 & 4%
Smokeless Leader	
Grade	20 & 4%
Black Powder	20 & 4%

U. M. C.	
Nitro Club	20 & 4%
Arrow	20 & 4%
New Club	20 & 4%

Gun Wads—per 1000.	
Winchester 7-8 gauge 10&7 1/2 %	
9-10 gauge 10&7 1/2 %	
11-28 gauge 10&7 1/2 %	

ASBESTOS.

Paper up to 1/16	6c per lb.
Rollboard	6 1/2 c per lb.
Millboard 3/32 to 1/2	6c per lb.
Corrugated Paper (250 sq. ft. to roll)	\$6.00 per roll

AUGERS.

Boring Machine	40&10%
Carpenter's Nut	50%
Hollow.	
Stearns, No. 4, doz.	\$11 50
Post Hole.	
Iwan's Post Hole and Well	35%
Vaughan's, 4 to 9 in.	\$15 60

AXES.

First Quality, Single	
Bitted (unhandled, 3 to 4 lb., per doz.	\$14 00
Good Quality, Single	
Bitted, same weight, per doz.	13 00

BARS, CROW.

Steel, 4 ft., 10 lb.	\$ 80
Steel, 5 ft., 18 lb.	1 40
Pinch bars.	
5 1/2 ft., 24 lb.	1 60

BARS, WRECKING.

V. & B. No. 12	\$0 34
V. & B. No. 24	0 43
V. & B. No. 34	0 57
V. & B. No. 30	0 48
V. & B. No. 320	0 63

BITS.

All Vaughan and Bushnell.	
Screw Driver, No. 30, each	\$ 27
Screw Driver, No. 1, each	16
Reamer, No. 80, each ..	41
Reamer, No. 100, each ..	41
Countersink, No. 13, each ..	20
Countersink, Nos. 14-15 each	27

BLADES, SAW.

Wood.	
Atkins 30-in.	6 40 26
Nos.	\$8 90 \$9 45 \$5 40

BLOCKS.

Wooden	45%
Patent	45%

BLOW TORCHES (See Firepots).

	Per Doz.
Stove.	
26x26, wood lined.	\$14 45
28x28, "	16 95
30x30, "	19 00
26x26, paper lined.	8 15
28x28, "	9 10
30x30, "	10 80

Wash.	
No. 760, Banner Globe (single)	per doz. \$5 25
No. 652, Banner Globe (single)	per doz. 6 75
No. 801, Brass King	per doz. 8 25
No. 840, Single—Plain Pump	6 25

BOLTS.

Carriage, Machine, etc.	
Carriage, cut thread, 1/2 x 6 and sizes smaller and shorter	50%
Carriage sizes, larger and longer than 1/2 x 6	40-5%
Machine, 1/2 x 4 and sizes smaller and shorter	50-10%
Machine, sizes larger and longer than 1/2 x 4	50%
Stove	75%

BRACES, RATCHET.

V. & B. No. 444 8 in.	\$4 54
V. & B. No. 222 8 in.	3 89
V. & B. No. 111 8 in.	3 55
V. & B. No. 11 8 in.	3 02

BURRS.

Copper Burrs only	30%
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BUTTS.

Steel, antique copper or dull brass finish—case lots—	
3 1/2 x 3 1/2—per dozen pairs	\$3 24
4x4	4 44

Heavy Bevel steel inside sets, case lots—	
per dozen sets	7 20

Steel bit keyed front door sets, each	1 75
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Wrought brass bit keyed front door sets, each	3 40
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Cylinder front door sets, each	7 50
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CARRIERS.

Hay.	
Diamond, Regular	each, net
Diamond, Sling	" "

CATCHERS, GRASS.

Wire frame, adjustable bottom, white duck, for 12" to 16" mowers, dozen	\$9 00
Same kind for 16" to 20"	10 50

CEMENT, FURNACE.

American Seal, 5 lb. cans, net	\$ 45
" 10 lb. cans, "	90
" 25 lb. cans, "	2 00
Asbestos, 5 lb. cans	45
Pecora	per 100 lbs. 7 51

CHAINS.

Proof Coll. 1/2" 100 lbs.	\$ 8 75
American Coll	50%
Electric Cow Welded Ties	
No. 00, 4 1/2, per doz.	2 85

CHIMNEY TOPS.

Iwan's Complete Rev. & Vent.	30%
Iwan's Iron Mountain only	35%

CHISELS.

Cold.	
V. & B. No. 25, 1/4 in., each	\$0 26
V. & B. No. 25, 1/2 in., each	41
Diamond Point.	
V. & B. No. 55, 1/4 in.	0 31
V. & B. No. 55, 1/2 in.	0 48

Round Nose.	
V. & B. No. 65, 1/4 in.	0 29
V. & B. No. 65, 1/2 in.	0 40

Cape.	
V. & B. No. 50, 1/4 in.	0 31
V. & B. No. 50, 1/2 in.	0 57

CHUCKS, DRILL.

Goodell's, for Goodell's Screw Drivers	List less 35-40%
Yankee, for Yankee Screw Drivers	\$6 00

CLAMPS.

Adjustable.	
Martin's	30%
No. 43, Screw	20%
No. 100, Door (Stearns) doz.	\$22 00

Carpenters'.	
Steel Bar	List price plus 20%

Carriage Makers'.	
2 1/2-inch	per doz. \$ 7 00
3 - "	14 00
12 - "	28 00
12 - "	42 00

Hose.	
Sherman's brass, 1/2-inch per doz.	\$0 43
Double, brass, 1/2-inch, per doz.	1 20

CLIPPERS.

Bolt (Carolus).	
No. 0	\$2 50
No. 1	3 25
No. 3	4 25

CLIPS.

Damper.	
Acme, with tail pieces, per doz.	\$1 25
Non Rivet tail pieces, per doz.	25
Non Rivet Clips	30
Hame	50

COPPERS—Soldering.

Pointed Roofing.	
3 lb. and heavier	per lb. 46c
2 1/2 lb.	45c
2 lb.	44c
1 1/2 lb.	43c
1 lb.	42c

CORD.

No. 7 Std. per doz. banks ..	\$10 00
No. 8	12 50

COUPLINGS, HOSE.

Brass	per doz. \$2 35
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CUT-OFFS.

Standard gauge	35%
26 gauge	20%
Kuehn's Korrekt Kutoffs:	
Galv., plain, round or cor. rd.	
Standard gauge	40%
26 gauge	10%

DAMPERS, STOVE PIPE.

Diamond.	
6-inch	per doz. \$1 65
Cast "American."	
6 inch per doz.	\$1 55
7 " " " " " " " "	2 25
8 " " " " " " " "	2 55
9 " " " " " " " "	5 30
10 " " " " " " " "	6 60
12 " " " " " " " "	8 00

Check.	
7 inch, each	\$1 00
8 " " " " " " " "	1 25
9 " " " " " " " "	1 50
10 " " " " " " " "	1 75
12 " " " " " " " "	2 25
Hot Air	40-10%

DIGGERS.

Post Hole.	
Iwan's Split Handle (Eureka)	
4-ft. Handle	per doz. \$14 00
7-ft. Handle	per doz. 36 00
Iwan's Hercules pattern, per doz.	14 90

DRILLS.

V. & B. Star, 12-inch Length.	
1/4, 5/16 and 3/8, each	35
1/2, each	36
1, each	81
V. & B. Star, 18-inch Length.	
1/4, each	31
5/16 and 3/8, each	33
1/2, each	46
1, each	69
1 1/2, each	1 05

EAVES TROUGH.

Milcor	
Galv. Crimpedge, crated. 70-12 1/2 %	

ELBOWS—Conductor Pipe.

Galvanized Steel, Tin and Terne	
Plain Round or Round Corrugated	
2 to 6 inch, Std. gauge	60%
2 to 6 inch, 26 gauge	40%
2 to 6 inch, 24 gauge	10%
Milcor	
Galv., plain or corrugated, round flat.	
Crimp, Std. gauge	65%
26 Gauge Std. gauge	45%
24 Gauge Std. gauge	15%

Crimp, Std. gauge.....	65%
26 Gauge Std. gauge.....	45%
24 Gauge Std. gauge.....	15%